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# The Effects of Level of Education, Exposure to Psychology, and Diagnostic Nomenclature on the Psychodiagnostic Judgments of Nonprofessionals

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THE EFFECTS OF LEVEL OF EDUCATION, EXPOSURE TO PSYCHOLOGY, AND  
DIAGNOSTIC NOMENCLATURE ON THE PSYCHODIAGNOSTIC JUDGMENTS  
OF NONPROFESSIONALS

By

Everett S. Jacobson

A Dissertation Submitted to the Faculty of the Graduate School of  
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## Chapter I

### INTRODUCTION

In recent years, much attention has been directed toward the utilization of nonprofessional individuals for tasks ordinarily performed by trained clinical psychologists. This approach has grown in interest and importance in view of the critical shortage of trained personnel in the mental health professions (Rioch, Elbes, Fline, Usdansky, Newman, & Silver, 1963). Consequently, there is some practical need to investigate the level of competence that persons having little or no formal exposure to the field of psychology possess in regard to clinical types of tasks. One may ask to what extent students varying in age, education, and exposure to psychology are sensitive to clinical phenomena, and how their sensitivity compares to that of individuals having broader training in psychology.

In regard to the variable of psychological training, several investigators have compared the performance on clinical tasks of individuals having extensive training in psychology with that of individuals lacking such training. In a review of the literature on interpersonal judgment, Taft (1955) concluded that psychological training as such appears to have little or no effect on the ability to judge other people. In a similar vein, Estes (1938) asked professional social workers, nonprofessional adults, and college students to make judgments of various kinds (ratings, checklists, and matchings) of individuals based upon the viewing of brief motion picture segments. He

found that the performances of many student judges exceeded the performances of adult judges. Estes interpreted his findings as indicating that certain judges have some special interest, ability, or both that enables them to observe people more accurately than other judges. Such studies in the area of interpersonal judgment have varied in terms of educational background of judges, judgmental tasks used, and criteria for accuracy of judgments.

One group of pertinent studies was concerned with the judgment of psychopathology from test materials. Hunt, Jones, and Hunt (1957) found that undergraduate and professional judges showed good agreement in rating the severity of schizophrenic responses on Wechsler Adult Intelligence Scale (WAIS) vocabulary and comprehension subtests; however, greater clinical experience was manifested in higher interjudge reliability for the professional group. In a related study, Jones (1959) operationally defined an experienced judge as a person having a Ph.D. in psychology and four years of clinical experience; inexperienced judges were selected from undergraduate psychology courses. The judgmental task consisted of rating the extent of schizophrenic pathology present on Wechsler vocabulary and comprehension sub-tests. An external validity criterion was established by having three highly experienced clinicians (possession of clinical experience ranging from 9 to 14 years) rate degree of schizophrenic pathology shown by the same patients in an interview situation. Judgmental accuracy of both experienced and naive groups exceeded chance levels; however, the clinicians' ratings were closer to the criterion than were the students' ratings. The clinicians' ratings in this study were also affected adversely by the inclusion of more stimulus information as a basis for judgment. Hunt and Walker (1962) used the same criteria for defining experienced and naive groups as did Jones; their inexperienced group includ-

ed both sophomore undergraduates and more advanced students. The task consisted of rating WAIS comprehension protocols (by the naive group) and both vocabulary and comprehension protocols (by the experienced group) obtained from schizophrenic, psychoneurotic, organic, feeble-minded, and normal individuals. All judges were asked to make a differential diagnosis based upon an entire test protocol. Hunt and Walker's data showed the following:

a) cases of normality and mental retardation were diagnosed more accurately than cases of brain damage. The greatest amounts of mutual confusion occurred between the schizophrenic-neurotic and retarded-organic categories. b) Diagnostic success with vocabulary tests had little correlation ( $p = .06$ ) with success using comprehension tests. c) The difference in diagnostic accuracy between the clinicians and the most naive student group attained significance ( $p = .05$ ) while the differences between the clinicians and the intermediate group approached significance ( $p = .08$ ). The accuracy of every judge in each group (adjustment class, abnormal psychology class, and clinical psychologists) exceeded chance, indicating that the students were relatively sophisticated in regard to clinical diagnosis.

The foregoing group of studies utilized judges from the upper end of the educational spectrum since all were college students who had some exposure to the field of psychology. Other related studies are those of Watson (1967), Oskamp (1962), and Grigg (1958). Watson used the Draw-A-Person (DAP) as a basis for distinguishing between brain injured, normal, paranoid schizophrenic, and nonparanoid schizophrenic patients. All of his judges were experienced clinical psychologists; the only dimension along which they differed was experience with projective and DAP tests. Although the entire group exceeded a chance number of hits, no relationships emerged between

diagnostic accuracy and DAP expertise.

Oskamp had groups of undergraduate psychology majors, experienced Veterans' Administration psychologists, and V.A. graduate psychology trainees judge Minnesota Multiphasic Personality Inventory profiles. Subjects were asked to determine whether a given MMPI profile came from a psychiatric or medical patient, and to rate degree of confidence in the judgment. The data for accuracy of judgment were in basic agreement with those of similar studies. Experienced judges performed at the highest level and inexperienced judges performed at an above chance level which was quite close to the clinicians' standard of performance.

Grigg (1958) used voice recordings and typescripts of interviews with clients as judgmental stimuli. The judges consisted of groups of 24 clinical psychologists, 24 psychology trainees, and 24 introductory psychology students. Grigg found that judges having at least one year of clinical experience made more accurate predictions of clients' test responses than untrained judges. However, experience beyond one year did not lead to increased accuracy of prediction. The author interpreted these findings as due either to selection of sensitive people as clinicians, or to more experienced clinicians being put at a disadvantage in regard to this particular task.

Other studies in the same vein can be found in the psychiatric literature. In these studies, rating scales were used to judge behavior: "naive" judges were typically psychiatric residents who differed from their supervisors only in terms of amount of face-to-face contact experienced with psychiatric patients (Geertsma & Stoller, 1960; Lehman, Ban & Donnell, 1965; Zimny & Lair, 1967). Stoller and Geertsma (1963) presented a 30-minute filmed interview to psychiatric clerks; the students were asked to make

ratings on a 5-point scale relevant to questions of theory, diagnosis, empathy, and other topics. The same task was administered to a group of 27 highly experienced psychiatric faculty members (mean of 9.7 years of post-residency professional experience). The authors found that increased psychiatric experience was associated with an increased range of ratings. There was highest agreement on material totally inappropriate to the patient or to a particular interview, but far less agreement as to what constitutes desirable or appropriate material.

In another type of study, the variable of overall educational level of judges was held constant, but the range of psychological background of judges was allowed to vary.

Luft (1950) compared the ability of mental health professionals (psychiatrists, psychologists, and social workers) to predict a patient's test responses from a case conference and interview material with that of physical scientists. Significant differences between these groups on accuracy of predictions did not emerge.

In an unpublished doctoral dissertation, McMahon (1966) compared the ability of clinical psychologists and nonclinicians to differentiate persons receiving psychotherapeutic treatment from groups receiving no such treatment. The nonclinicians in this study were graduate students in business. Psychological test data were used as bases for these judgments; data from the Rorschach, Minnesota Multiphasic Personality Inventory, and Sentence Completion Tests were included. McMahon found that both clinicians and nonclinicians were able to differentiate treatment from nontreatment groups at levels exceeding chance. The content of the test itself was found to be of greater importance in differentiating the two groups of patients than the backgrounds

of the judges. When test content was selectively taken out of an entire test protocol and presented to judges, psychological training was not found to be a significant variable in psychological assessment. In an investigation completed in 1961, Nunnally studied the effects of high school psychology courses on the information and attitudes of students at the same levels of the educational process in regard to mental health. A pre-post design was used, in which students were tested before and after completion of their psychology course. Control groups of nonpsychology students at the same grade level were also tested. On a gross "correctness of information" measure relevant to mental health, both psychology and nonpsychology students improved, although the differences were small. Changes in attitudes (negative to positive) were also manifested by both experimental and control groups, in roughly equivalent amounts.

In other research studies, variables of overall educational level and exposure to psychological training were manipulated simultaneously. Walker and Linden (1967) selected judges of psychological test protocols from groups of undergraduate engineering students, undergraduate psychology majors, graduate psychology students, and practicing Ph.D. psychologists. Test materials for judgment were taken from six normal males, six psychoneurotic outpatient males, and six hospitalized psychotic males. Each judge was asked to sort the test protocols into the appropriate diagnostic category, and make 5-point ratings of adjustment in critical life areas. On the measure of diagnostic accuracy all groups performed at an above chance level. Individual differences between judges emerged both within and across levels of sophistication. For instance, two engineering students sorted the tests more accurately into their appropriate categories than did four of the psychologists.

Weinstein and Johnson (1964) used 20 psychologists and 20 clerks and technicians to judge Bender-Gestalt tests made by epileptics before and after temporal lobectomy. They were asked to distinguish drawings made before and after the operation, as well as to distinguish epileptic from schizophrenic drawings. The data showed no significant differences between the mean correct judgment figures of psychologists and laymen. Cline (1955) used groups of college undergraduates, church members, nursing trainees, engineering trainees and mental health professionals to judge personality factors of individuals in a filmed stress interview. Although the mental health professionals showed the highest mean correct judgments, the wide variations in judgmental accuracy within each group were worthy of note.

Much valuable information about the relationship between an individual's overall degree of maturity and sophistication and his knowledge of mental health concepts is contained in the work of Nunnally (1961). He found that age and years of education were the two most important variables relating to a person's knowledge of mental health. Intelligence was involved in this relationship as well; not surprisingly, brighter individuals tended to be better informed about mental health. On a 10-item mental health questionnaire scored according to agreement with the opinions of experts, correctness of information figures correlated .39 and .42 with intelligence measures for two groups of high school students. When all levels of the adult population were considered, older individuals were found to have less correct conceptions of mental health than younger individuals.

Another question that arose during the course of Nunnally's research concerned the vocabularies of mental health professionals and nonprofessionals in regard to phenomena of psychopathology. Nunnally found that laymen and

mental health workers often use different terms of communication in regard to similar abnormal behavioral states. Professionals tended to communicate with the public at large in a very indirect fashion, owing to limited vocabularies of laymen in regard to mental health. He did not interpret this as meaning that the public is incapable of understanding mental health conceptions; rather, diagnostic nomenclature does not seem to be anchored to concrete behaviors and events for the average layman. In one relevant study, Nunnally translated diagnostic terms such as "neurotic" into more general terms such as "extremely withdrawn" and "emotionally immature." Students had more favorable reactions to the latter set of terms than to the former, as measured by the Semantic Differential Technique. In addition, some terms are used differently by people involved and not involved in mental health work; the term "aggressive," for instance, has more positive meaning for the layman than for the psychologist or psychiatrist.

In a related investigation, Zolik and Stotsky (1966) studied the effects of various labels on recommendations for management and referral of mental health problems by students in introductory psychology courses. The labels used were "mental illness," "emotional disturbance," and "nervous breakdown." The latter term was included because of its widespread usage by the general public. The data showed that the students perceived the three categories of pathology in different ways. "Nervous breakdown" was perceived as more amenable to management by nonpsychiatric medical personnel than "mental illness." The latter term was perceived as the most serious of the three categories, and was considered least amenable to nonpsychiatric therapeutic intervention. "Emotional disturbance" was perceived as a more diffuse category, and was seen as more amenable to therapeutic approaches outside of the strict medical-



psychiatric model. This study, as well as that of Nunnally, suggests that a layman's approach to a diagnostic task could be influenced by type of nomenclature used to describe abnormal behavioral states, in addition to the judge's level of training and sophistication.

## CHAPTER II

### STATEMENT OF THE PROBLEM

The main objective of the current study was to investigate the effects of relevant characteristics of nonprofessional judges on a task of psychodiagnostic judgment. These characteristics were overall educational level of judges and exposure to the field of psychology in terms of formal coursework. Most of the previous research cited that pertained to diagnostic judgment did not investigate the performance of judges below a college level of sophistication, nor that of judges totally lacking in exposure to the field of psychology via coursework. In the current study, the range of these variables was broadened and they were considered separately. Groups of judges in the study were comparable in regard to intelligence in order to control for the effects of this variable.

Research cited above by Nunnally and Zolik and Stotsky indicated that nonprofessionals do not tend to use conventional professional nomenclature to denote states of abnormal behavior. Thus, a more informal set of laymen's terms was added in the current study in order to compare the performance of judges under both conditions.

The hypothesized results of the study were as follows:

- 1) Judges at higher levels of education would achieve more diagnostic hits than judges at lower educational levels. This would be due to

their greater maturity and years of schooling.

2) Judges exposed to the field of psychology via coursework would achieve more hits than judges lacking such exposure. The greater the exposure, the higher the level of diagnostic performance that would be expected.

3) Judges who used a set of layman's equivalents of diagnostic terms would achieve more hits than judges who used the standard professional nomenclature. This would be due to greater familiarity of judges with jargon terms to describe abnormal behavioral states.

4) A group of professional psychologists who judged the same test protocols would exceed the student judges in terms of diagnostic accuracy.

The judgmental task used in the current study was used in an earlier study (Hunt & Walker, 1962) and consisted of making global diagnostic judgments based upon the reading of entire WAIS subtests. In the current study, only the vocabulary subtest was used. In the field of clinical psychology, one can find examples of vocabulary tests used as yardsticks of judging psychopathology. The WAIS vocabulary subtest has been singled out by clinicians as a valuable source of qualitative diagnostic information (Wechsler, 1958). Thus, the judgmental task used in the current study is one of differential diagnosis that would fall within the realm of the work of most practicing psychodiagnosticians.

## CHAPTER III

### METHOD

#### Subjects

Judges for the study were selected from groups of students differing in their levels of education. These groups were composed of high school seniors, university students within their first two years of study (underclassmen), and university students within their last two years of study (upperclassmen). These groups differed in mean age by approximately two years. Equal numbers of judges exposed and unexposed to the field of psychology were selected at each educational level. Exposure to the field of psychology was defined as completion or near completion of a survey course in psychology which included a unit on abnormal behavior and mental hygiene.

The high school judges were selected from lists of volunteers at two Chicago area Catholic high schools. One of these was a girls' school and the other was a coeducational school. Each of these schools offered a senior elective survey course in psychology.

College level judges exposed to psychology were volunteers from introductory psychology classes at Loyola University during the last week of the spring semester. College level judges not exposed to psychology were volunteer sociology students from the University of Illinois at Chicago Circle who had not registered for and were not taking a psychology course. All of the judges in the study were enrolled in liberal arts programs.

Two additional groups of judges were added to broaden the range of the education and exposure to psychology variables. The first of these groups consisted of high school sophomores, not yet eligible to take psychology. Their performance was compared to that of judges at higher educational levels also lacking in exposure to a psychology course. The second of these additional groups consisted of university upperclassmen having a background of at least three psychology courses beyond the introductory level, including a course in personality problems. Their performance was compared to that of judges at a comparable educational level who had less exposure to the field of psychology via coursework.

The total N for the study was 160 judges. Forty judges were included in the high school senior, college upperclassmen, and college underclassmen groups respectively. Twenty judges in each of these groups had a psychology course while 20 did not. The two additional groups of naive high school sophomores and college upperclassmen having additional psychology courses contained 20 judges each. All of the above groups of judges were comparable in regard to Intelligence Quotient (IQ), as measured by the Otis Gamma EM Test. Table 1 shows the mean IQs for each group. The total range of IQ scores for all of the judges was 98 to 130, and the differences between the means of the groups were small. When F ratios were computed between the group mean IQs, all of the ratios were <1.

In addition, a group of 13 practicing Ph.D. clinical psychologists who had previously judged the WAIS vocabulary protocols used in the current study (Hunt & Walker, 1962) were included for purposes of comparison.

Table 1

Otis IQ Scores for the Various Experimental Groups of Judges

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.		Exposed Beyond Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Soph.	115.40	3.47	-	-	-	-
HS Senior	115.60	7.70	115.60	6.78	-	-
Coll. Under.	115.70	6.60	116.10	5.34	-	-
Coll. Upper	115.50	7.32	115.70	5.29	115.10	5.56

Layman's Nomenclature

HS Soph.	116.20	4.31	-	-	-	-
HS Senior	115.90	8.04	115.20	6.35	-	-
Coll. Under.	116.00	8.95	115.70	9.82	-	-
Coll. Upper.	115.70	4.52	115.10	6.64	115.40	6.25

## Measures

The criterion measures for the current study consisted of the diagnoses of 30 adult males, 24 patients and 6 normals. These patients' protocols included equal numbers of schizophrenic, psychoneurotic, organic brain damaged, and feeble-minded individuals whose diagnoses were unanimously agreed upon by professional staffs at the institutions in which the patients were tested. The six normals had no psychiatric history and no detectable symptomatology at the time of testing. The schizophrenics were used in another study (Jones, 1959) and represented the entire range of schizophrenic disorder. All except the feeble-minded group were comparable for age, intelligence, and educational and occupational history.

The major dependent variable was number of diagnostic hits attained by the judge. The maximum number of hits for each judge was 30. The number of hits attained by each judge was also subdivided according to six diagnostic categories (see above). The test protocols which were judged are presented in Appendix A.

Otis Intelligence Quotient (IQ) scores were also obtained for each judge in the study. The procedures used in obtaining these scores are outlined in the following section.

## Procedure

Each judge was provided with a set of instructions, 30 test protocols, and a data sheet. Judges were tested in groups.

The 30 vocabulary protocols were presented in randomized order to each judge. Since two types of nomenclature were used (standard diagnostic nomenclature and a set of layman's equivalents), two sets of instructions were also used. They were as follows:

Standard diagnostic nomenclature:

"We are presenting you with a number of vocabulary test responses. On each sheet, you will see the test word at the left and the definition given by the subject at the right. These responses were taken from organic brain damaged, schizophrenic, and feeble-minded individuals. We are asking you to read each test and decide the kind of patient that produced it. In other words, classify each test according to N(ormal), P(sychoneurotic), O(rganic), S(chizophrenic), and F(eeble-minded), indicating your classification by placing the appropriate capital letter in the space provided on the accompanying data sheet.

If you are not sure what all these terms mean, just go ahead and do the best you can."

Layman's terminology:

Instructions were the same as the above, except for the substitution of "insane" for "schizophrenic," "nervous" for psychoneurotic, "brain damaged" for organic brain damaged, and "stupid" for feeble-minded. All judges then proceeded to read the 30 test protocols, and marked their classification on the data sheet according to the above scheme.

The Otis Quick Scoring Tests of Mental Ability were administered to the judges one week after their judging of the WAIS vocabulary protocols. The Gamma EM Test (higher), appropriate for testing high school and college students at upper levels, was used. A 30 minute time limit for the test administration was used.



## CHAPTER IV .

### RESULTS

The basic design of the study was a  $3 \times 2 \times 2 \times 5$  factorial. The variables investigated were educational levels of judges (high school seniors, college underclassmen, and college upperclassmen), exposure to psychology coursework (no exposure vs. exposure to introductory psychology); type of diagnostic nomenclature used (standard vs. layman's), and diagnostic categories (organic, feeble-minded, schizophrenic, psychoneurotic, normal). The analyses were based on a total of 120 judges; each judge used the five categories in judging the test protocols.

The predicted directions of the data were:

- 1) an increase in diagnostic accuracy (hits) from the lowest educational group to the highest;
- 2) more hits for the judges exposed to the field of psychology via coursework than for unexposed judges;
- 3) more hits for judges who used layman's terminology as opposed to standard diagnostic nomenclature.

Table 2 shows the results of the  $3 \times 2 \times 2 \times 5$  analysis of variance.

Table 2

Analysis of Variance for Hits by Diagnostic Category

<u>Source</u>	<u>df.</u>	<u>MS</u>	<u>F</u>
Exposure to Psychology (E)	1	9.88	8.02**
Nomenclature (N)	1	0.02	< 1
Educational Level (EL)	2	1.24	1.00
E X N	1	4.00	3.25
E X EL	2	0.85	< 1
N X EL	2	2.10	1.71
E X N X EL	2	0.36	< 1
Error (Between)	108	1.23	
Diagnostic Category (C)	4	134.15	104.23***
E X C	4	1.79	1.39
N X C	4	9.54	7.41**
EL X C	8	2.32	1.81
E X N X C	4	0.31	< 1
E X EL X C	8	3.71	2.88
N X EL X C	8	0.59	< 1
E X N X EL X C	8	1.57	1.22
Error (Within)	432	1.29	
Total	599		

\*\*p < .01  
 \*\*\*p < .001

The main effect for the variable of exposure to psychology was significant across all the diagnostic categories ( $F(1, 108) = 8.02, p < .05$ ). Table 3 shows the means of the various experimental groups for total hits across categories. An inspection of Table 3 reveals that the mean hits for judges exposed to a psychology course exceeded the mean hits for judges lacking this exposure, as predicted. The main effect for nomenclature was not significant ( $F < 1.0$ ) and this did not support the prediction that the use of layman's nomenclature would result in better diagnostic performance than the use of standard nomenclature. However, the interaction between exposure to psychology x diagnostic category approached significance at the .05 level ( $F(1, 108) = 3.25, p < .10$ ). Figure 1 shows the graph of this interaction. In Figure 1, layman's nomenclature led to better diagnostic performance for judges exposed to a psychology course, whereas the standard nomenclature led to better performance for judges lacking such exposure. Thus, the layman's terms appeared to have a facilitating effect only for those judges who already took a course in which basic psychological concepts were covered. The main effect for educational level was not significant ( $F < 1.0$ ), thus not supporting the prediction that judges at higher educational levels would attain more hits.

The results for diagnostic categories were highly significant ( $F(4, 432) = 104.23, p < .001$ ). Table 4 shows the means and standard deviations of hits for the various diagnostic categories. The highest mean was found for the normal category, and the lowest mean was found for the schizophrenic category. Intermediate mean hits were found for the feeble-minded, psychoneurotic, and organic categories respectively.

Table 4 shows that the categories characterized by the lowest level of

diagnostic accuracy were organic, schizophrenic, and psychoneurotic. The mean hits for the organic and schizophrenic categories fell below chance, while the mean hits for the psychoneurotic category barely exceeded chance (1.20). Table 5 shows the frequency distributions of total judgments on test protocols taken from patients falling into these three categories. Table 5 is subdivided according to judges' level of exposure to psychology and nomenclature used; educational level of judges was not considered because of its failure to attain significance in previous analyses. An inspection of Table 5 reveals that the normal alternative was used most frequently for all three types of patient protocols. However, this tendency was not as marked for the organic patients' protocols as for the schizophrenic and neurotic patients' protocols. Across all three types of patient protocols, the judges exposed to coursework in psychology relied less heavily on the normal alternative and applied the "sick" categories more readily. The same group of judges used the schizophrenic and psychoneurotic alternatives more frequently than judges unexposed to a psychology course. Inspection of the marginal totals presented in Table 5 also reveals that judges who used layman's terms used the organic category much more than judges who used standard diagnostic terms; however, the judges using standard terms used the schizophrenic category considerably more.

Table 2 also shows that the interaction between diagnostic nomenclature X category was significant ( $F(2, 54) = 7.41, p < .05$ ). Figure 2 is a graph of this interaction, and is based upon the means for the standard vs. layman's nomenclature groups for each diagnostic category, as presented in Tables 6-10. Figure 2 shows that judges who used layman's nomenclature performed better on the organic and psychoneurotic protocols. However,

Table 3

Mean Total Hits by Levels of Education, Exposure to Psychology,  
and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	9.10	2.55	9.20	2.57
Coll. Underclassman	8.10	2.50	9.60	2.54
Coll. Upperclassman	9.40	1.19	9.20	2.82

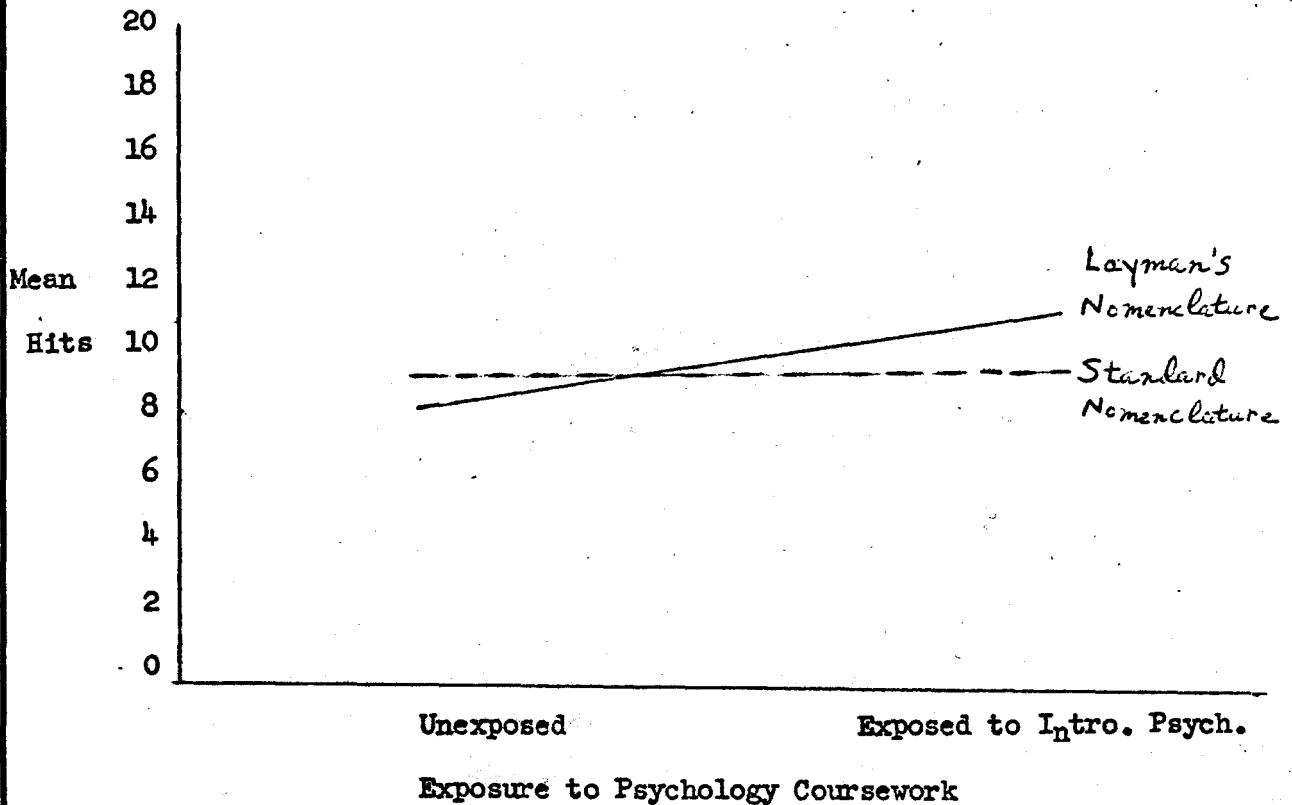
Layman's Nomenclature

HS Senior	6.90	2.32	9.50	2.04
Coll. Underclassman	8.80	2.44	11.10	3.69
Coll. Upperclassman	8.60	2.05	10.00	2.27

Note: In the above table, a mean of 6.00 = expected chance value.

Figure 1

Graph of the Interaction between Exposure to Psychology X Diagnostic  
Nomenclature



Note: in the above figure, a mean hits value of 6 on the  
ordinate = expected chance value.

judges who used the laymen's terminology unexpectedly performed worse than the judges who used standard terms on the protocols taken from schizophrenic, feeble-minded, and normal individuals. Thus, the variable of diagnostic nomenclature had differential effects for the individual diagnostic categories, although it did not emerge as a significant variable when all the categories were considered together.

Table 4

Mean Hits for Each Diagnostic Category

	Mean	<u>SD</u>	Range
Total (All Categories)	9.15	2.54	4-16
Organic	1.04	0.95	0- 4
Feebleminded	2.38	1.35	0- 6
Schizophrenic	0.74	0.89	0- 4
Psychoneurotic	1.60	1.21	0- 5
Normal	3.35	1.37	1- 6

Note: In the above table, a mean of 6.00 = expected chance value for all categories combined, and 1.20 = expected chance value for each individual category.



Table 5

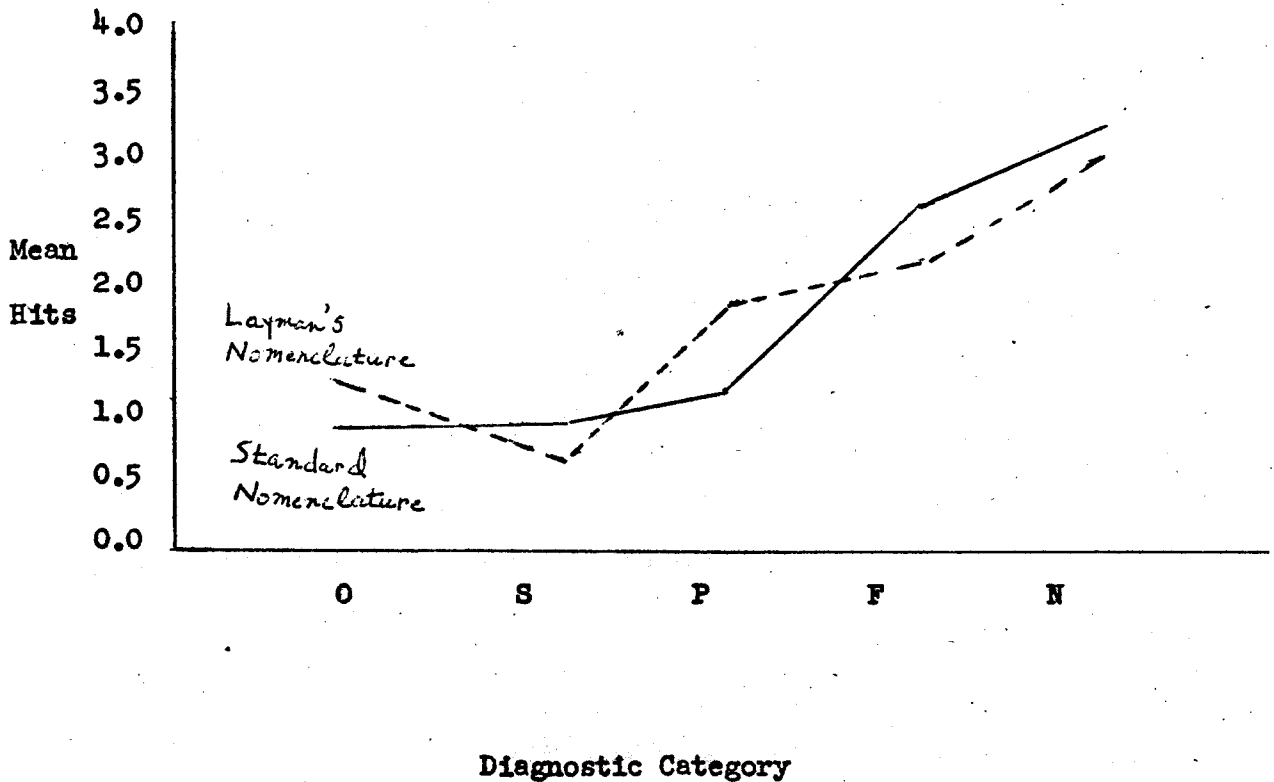
Distribution of Diagnoses of Protocols Taken from Organic, Schizophrenic, and Psychoneurotic Patients

Standard	Unexposed to Psych.				Exposed to Psych.				
Nomenclature	O	S	P	Total	O	S	P	Total	
	O	26	12	7	45	22	10	10	42
	F	28	18	12	58	37	22	13	72
	S	26	25	27	78	32	32	30	94
	P	40	28	29	97	47	43	40	130
	N	55	82	95	232	46	74	87	207
Layman's									
Nomenclature	O	34	23	28	85	44	18	12	74
	F	40	29	15	84	42	19	11	72
	S	28	12	8	48	26	24	10	60
	P	20	32	47	99	24	48	66	138
	N	53	85	80	218	44	68	82	194

Note: In the above table, O = organic, F = feeble-minded, S = schizophrenic, P = psychoneurotic, and N = normal. The rows (O, S, P) represent actual diagnoses of patients, while the columns (O, F, S, P, N) represent diagnoses made by the student judges.

Figure 2

Graph of Interaction between Diagnostic Nomenclature X Diagnostic Category



Note: in the above figure, O = organic, F = feeble-minded, S = schizophrenic, P = psychoneurotic, N = normal. A mean hits of 1.20 on the ordinate = expected chance value.

Although the interaction effects of educational level X diagnostic category and exposure to psychology X diagnostic category did not attain statistical significance ( $p < .25$ ), an inspection of Tables 6-10 reveals some interesting findings. Table 8 shows that within the schizophrenic category, the trend of the findings for educational level was exactly the opposite to that predicted - i.e., the group mean hits decreased as the higher educational levels of judges were reached. Thus, the highest group means were recorded for the high school judges, and the lowest group means were recorded for the college upperclassmen. Although the other diagnostic categories were characterized by failure of the educational variable to conform to predictions, the reversal was most striking for the schizophrenic category.

Tables 1 and 3 in the Appendix show the mean diagnostic hits for the additional groups of high school sophomores unexposed to psychology coursework and college upperclassmen exposed to a great deal of psychology coursework respectively. Tables 2 and 4, Appendix, show the analyses of variance for these groups. It is interesting to note that the broadening of the educational range did not lead to any significant effects for this variable; in fact, the  $F$  ratio for educational level remained below 1. When the data for the additional group of psychologically sophisticated judges were considered, the means were in the predicted direction - i.e., the judges having the most exposure to the field attained the greatest number of hits, but this trend was not significant ( $F(2, 54) = 2.20, p < .25$ ). A comparison of the college upperclassmen included in Tables 6-10 with their more psychologically sophisticated peers presented in Table 3, Appendix, shows that judges having more exposure to the field were more accurate in their diagnoses for every diagnostic category except for organic.

Table 6 .

Mean Hits on Organics' Protocols by Levels of Education, Exposure to Psychology,  
and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	.90	.73	1.00	.81
Coll. Underclassman	.90	.73	.50	.70
Coll. Upperclassman	.50	.52	..80	.91

Layman's Nomenclature

HS Senior	1.20	1.03	1.70	1.33
Coll. Underclassman	1.10	.87	1.30	1.25
Coll. Upperclassman	1.30	.82	1.30	1.15

Note: In the above table, a mean of 1.20 = expected chance value.

Table 7

Mean Hits on Feeble-minded's Protocols by Levels of Education, Exposure to Psychology, and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	2.70	1.15	2.40	1.17
Coll. Underclassman	2.00	1.15	3.70	1.56
Coll. Upperclassman	2.90	.99	2.20	1.39

Layman's Nomenclature

HS Senior	1.30	1.49	2.00	.94
Coll. Underclassman	1.70	.94	3.10	1.72
Coll. Upperclassman	2.10	1.19	2.50	1.08

Note: In the above table, a mean of 1.20 = expected chance value.

Table 8

Mean Hits on Schizophrenics' Protocols by Levels of Education, Exposure to Psychology, and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	.80	.42	1.50	1.08
Coll. Underclassman	1.10	1.28	.60	.84
Coll. Upperclassman	.70	.82	.90	.99

Layman's Nomenclature

HS Senior	.50	.70	.90	.73
Coll. Underclassman	.40	.69	1.00	1.05
Coll. Upperclassman	.20	.63	.30	.67

Note: In the above table, a mean of 1.20 = expected chance value.

Table 9

Mean Hits on Psychoneurotics' Protocols by Levels of Education, Exposure to Psychology, and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	1.40	1.17	1.20	1.22
Coll. Underclassman	1.00	.94	1.10	1.44
Coll. Upperclassman	.80	.63	2.10	1.10

Layman's Nomenclature

HS Senior	1.20	.78	2.00	1.05
Coll. Underclassman	2.40	1.26	2.20	1.47
Coll. Upperclassman	1.50	1.17	2.40	1.90

Note: In the above table, a mean of 1.20 = chance value.

Table 10 .

Mean Hits on Normals' Protocols by Levels of Education, Exposure to  
Psychology, and Nomenclature

Standard Nomenclature

Educational Level	Unexposed to Psych.		Exposed to Intro. Psych.	
	Mean	<u>SD</u>	Mean	<u>SD</u>
HS Senior	3.30	1.49	3.10	1.19
Coll. Underclassman	3.10	.99	3.70	1.49
Coll. Upperclassman	4.50	1.50	3.20	1.47

Layman's Nomenclature

HS Senior	2.70	.94	2.90	1.37
Coll. Underclassman	3.20	.78	3.50	1.26
Coll. Upperclassman	3.50	1.95	3.50	1.50

Note: In the above table, a mean of 1.20 = expected chance value.



Comparisons of the Diagnostic Performances of Student Judges and Ph.D. Clinicians. Tables 11 and 12 present comparisons between the diagnostic performances of all the groups of nonprofessional student judges used in the current study and a group of highly experienced clinical psychologists used in a previous study (Hunt & Walker, 1962). In that study, the clinicians judged the same test protocols that were used as judgmental stimuli in the current study.

Table 11 compares the performances of the student judges considered by their degree of exposure to psychology coursework with the Ph.D. group. One way comparisons are presented, with the five diagnostic categories considered together and separately. Table 12 presents similar comparisons, with the student judges considered by type of diagnostic nomenclature used. The comparisons presented in Tables 11 and 12 are summed over educational levels, since this variable failed to emerge as significant in any of the analyses presented previously. Each table is based on data for 160 student judges; this includes the 120 judges described earlier in the results section, as well as the two additional groups whose data appear in Appendix B.

In Table 11, significant differences between the means of the four subgroups differing in exposure to psychology were found for all categories combined ( $F(3, 169) = 11.40, p < .01$ ). Significant differences were also found for the schizophrenic category ( $F(3, 169) = 17.63, p < .01$ ) and for the psychoneurotic category ( $F(3, 169) = 4.44, p < .05$ ). The Scheffe Test of the Contrast of the Differences between Means was applied to the means of the groups in the diagnostic categories mentioned above. For all categories combined, differences between the clinicians' means and all the other means were significant ( $p < .05$ ). In addition, the differences between the judges

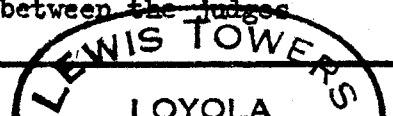


Table 11

Mean Hits by Levels of Exposure to Psychology for the Entire Sample

	Unexposed ( <u>N</u> =80)	Exposed to Intro. Psych. ( <u>N</u> =60)	Exposed Beyond Intro. ( <u>N</u> =20)	Ph.D. ( <u>N</u> =13)	
	Mean	Mean	Mean	Mean	F Ratio
All Categories	8.40	9.73	10.60	12.15	11.40**
Organic	0.98	1.10	0.90	1.15	0.32
Feebleminded	2.11	2.66	2.70	3.00	3.11
Schizophrenic	0.64	0.86	1.15	2.69	17.63**
Psychoneurotic	1.35	1.83	2.35	1.76	4.44*
Normal	3.24	3.31	3.50	3.53	0.34

\*p < .05

\*\*p < .01

Note: In the above table, levels of exposure to psychology of student judges was considered while summing over the educational level and nomenclature variables.

Table 12

Mean Hits by Type of Diagnostic Nomenclature Used for the Entire Sample

	Standard Nomenclature (N=80)	Layman's Nomenclature (N=80)	Ph.D. (N=13)	F Ratios
	Mean	Mean	Mean	
All Categories	9.08	9.28	12.15	7.91**
Organic	0.78	1.26	1.15	6.03**
Feeble-minded	2.51	2.26	3.00	1.91
Schizophrenic	0.94	0.64	2.69	25.74**
Psychoneurotic	1.42	1.89	1.76	2.92
Normal	3.40	3.20	3.53	0.65

\*\*  $p < .01$

Note: In the above table, types of nomenclature used by student judges were considered while summing over the educational level and exposure to psychology variables. The Ph.D. clinicians used only the standard set of terms for judgment.

unexposed to psychology and all groups of judges having more exposure were significant as well.

For the schizophrenic category, the differences between the means of the Ph.D. group and all the student groups were significant at the .05 level. For the psychoneurotic category, the difference between the means of the judges unexposed to psychology and the judges exposed to advanced psychology courses was significant ( $p < .05$ ). Unexpectedly, the mean of the judges exposed to advanced coursework in psychology significantly exceeded the mean of the Ph.D. clinicians for the psychoneurotic category alone.

In Table 12, significant differences between the means of the groups divided according to nomenclature used were found for all categories combined ( $F(2,170) = 7.91, p < .01$ ); the organic category ( $F(2, 170) = 6.03, p < .01$ ); and the schizophrenic category ( $F(2, 170) = 25.74, p < .01$ ). It should be noted that the Ph.D. group had used only the standard nomenclature, and should be considered as a comparison group rather than another experimental group. The Scheffe Test of the Contrast of the Differences between Means was applied to the means for the diagnostic categories mentioned above. For all categories combined, the differences between the means of the Ph.D. group and the standard and laymen's nomenclature groups were significant ( $p < .05$ ). For the organic category considered alone, the differences between the means of judges using standard diagnostic nomenclature and the other two groups were significant at the .05 level. In this category, use of standard nomenclature led to poorer performance; in addition, the mean of the clinicians was exceeded by the mean of the judges who used layman's nomenclature ("Brain Damaged"). For the schizophrenic category, the differences between the means of the Ph.D. group and the other two groups were significant at the .01 level;

in this category, the professional judges' performance far outstripped that of the nonprofessionals.

### Summary Statistics for the Entire Experimental Sample.

Table 13 is a summary of the overall diagnostic performance of all 160 student judges used in the current study. This includes the 120 judges described earlier in relation to the basic  $3 \times 2 \times 2 \times 5$  design, as well as the two additional groups of judges whose data appear in Appendix B. Table 13 shows the total number of diagnostic judgments made by the judges, as well as the hits falling within each category. The table indicates that the most frequently used categories also had the highest total of hits, as would be expected (Schwartz, Hunt & Walker, 1963). The normal category was used most frequently and most accurately, while the organic and schizophrenic categories were used least accurately and frequently. The psychoneurotic and feeble-minded categories ranked second and third respectively in frequency of usage; their ranks on judgmental accuracy were reversed.

Table 14 is a table of intercorrelations showing the relationships between judgmental accuracy within each diagnostic category and judgmental accuracy within every other category. In addition, the relationship between judges' Otis IQ scores and their diagnostic accuracy by categories is also shown in Table 14. Among the separate diagnostic categories, the feeble-minded category showed the highest coefficient of correlation with hits across all categories combined ( $r = .63$ ). The lowest coefficient of correlation with total hits appeared for the schizophrenic category (.30). Intermediate values of coefficients of correlations with all categories appeared for the organic category (.33), the normal category (.41), and the psychoneurotic category (.52). It should be noted that the correlations of hits

Table 13

Comparison of Total Judgments with Hits by Diagnostic Category for the  
Entire Sample

	Total Judgments	Hits
Normal	1627	528
Psychoneurotic	906	265
Feeble-minded	891	382
Organic	675	163
Schizophrenic	533	126
No Choice	168	—

Table 14

Intercorrelations of Hits by Diagnostic Category for the Entire Sample

	Total	Organic	Feeble.	Schiz.	Neurotic	Normal
Organic	.33					
Feeble.	.63	-.09				
Schiz.	.30	-.01	.04			
Neurotic	.52	.14	.12	.05		
Normal	.41	-.11	.17	-.15	-.16	
Otis IQ	.06	.09	-.02	.02	.05	.02

within individual categories with total hits may be spuriously high, since the total score includes hits within each category alone. The Otis IQ scores had a low and positive coefficient of correlation with hits across all diagnostic categories (.06). Aside from hits across all categories, the highest coefficient for one category with another appeared between feebleminded and normal ( $r = .17$ ). It should be noted that these are the two categories that showed the highest values for diagnostic accuracy as well.



## CHAPTER V

### DISCUSSION

Of the variables investigated in this study, the exposure to psychology variable emerged as significant across the five diagnostic categories. When diagnostic categories were considered separately, the effects of the exposure variable were in the predicted direction, except for the organic category. The judges exposed to coursework in psychology attained more diagnostic hits than judges having a comparable amount of general education but lacking psychology courses. The educational level of the judges did not emerge as a significant variable by itself or in combination with any of the other variables. Therefore, one of the major findings of the study concerned the greater importance of specific exposure to the field of psychology as opposed to general education as a variable affecting psychodiagnostic judgment.

The variable of diagnostic nomenclature did not emerge as significant for all the categories combined, but did have significant effects for several of the categories considered separately. Layman's jargon equivalents for diagnostic terms led to significantly better diagnostic performance on the organic and psychoneurotic test protocols, as predicted. However, it is curious to note that the judges who used standard terminology judged the protocols taken from feeble-minded and schizophrenic patients more accurately than judges who used layman's terminology. Since the student judges' performance was at a relatively high level for the feeble-minded category, the findings may be interpreted as due to some prior familiarity with the basic

principles of feeble-mindedness or mental retardation. The term "stupid" may have merely added negative connotations to the judges' prior familiarity, and thus impeded their performance. However, judges' performance on the schizophrenic protocols was consistently poor for all groups except professionals and became even worse when the term "insane" was substituted for "schizophrenic." It is interesting to note that the judges avoided the more pathological categories when judging schizophrenic protocols. The judgments clustered in the normal category, despite the blatantly pathological flavor of the protocols. This could indicate some reluctance on the part of non-mental health personnel to use pathological labels, even when appropriate. This is in accord with the findings of other studies (McMahon, 1965; Soskin, 1954). This apparent bias is reinforced by the reluctance of the groups of reasonably intelligent students used as judges in the current study to apply even the label "insane," a term they are no doubt familiar with. It should be noted, however, that the students exposed to psychology coursework applied the pathological labels more freely, which also agrees with the research mentioned above.

Another relevant finding was the significant interaction between nomenclature and exposure to psychology. A facilitation effect did emerge for layman's nomenclature, but only for those judges having some exposure to the field. Evidently, on the basis of the sample observed in this study, general education does not give most laymen the insight into psychopathology to perform at a high level diagnostically, even when provided with a simpler and more familiar terminology.

When the performance of the nonprofessional student judges was compared with that of a highly sophisticated group of Ph.D. clinical psychologists,

the expertise of the clinicians was reflected in the total hits measure (across categories). However, this was not the case within each diagnostic category considered separately. The clinicians manifested their poorest performance on the protocols taken from organic patients, and were surpassed by nonprofessionals within this category. However, the low group means for both professional and nonprofessional groups reflect the difficulty of the category. When the total distribution of judgments for the organic category was presented for the student judges, it was found that the distribution was split rather evenly among the various alternatives. This would indicate a rather diffuse and nonspecific conception of the organic type. This is congruent with the experience of many practicing clinicians, who have reported that organically brain damaged patients often show symptoms typical of several different types of patients (White, 1956, p. 440). For the feebleminded category, the nonprofessionals did relatively well and the clinicians did slightly but not significantly better. In regard to the psychoneurotic category, the clinicians were surpassed by older undergraduates, having extensive psychology coursework, in diagnosing this disorder. The use of the label "nervous" in place of "psychoneurotic" also facilitated correct diagnoses. This agrees with Nunnally's finding that terms like "emotionally immature" and "nervous" are easier for nonprofessionals to grasp and work with than terms like "neurotic." A preponderance of normal judgments were also given for protocols taken from psychoneurotics, due possibly to the mild nature of the disturbance.

Of the individual diagnostic categories, the most noteworthy results appeared with the schizophrenic category. First, as mentioned above, it was characterized by an overall low level of accuracy, with the jargon term

"insane" having an even more negative effect. Second, it was the only category that showed a decreasing pattern of diagnostic accuracy for more mature judges - i.e., the oldest and most educated judges performed at the lowest level, except for the clinicians. Third, it was the only category in which the professional group clearly and significantly manifested its superiority. Among the nonprofessionals, exposure to psychology courses resulted in only slightly better performance. Thus, extensive clinical training had its greatest impact on judgments of schizophrenic test responses.

In regard to the normal category, the highest level of diagnostic accuracy was found. However, as was pointed out earlier, this category was used more as a judgmental alternative than any other. The student judges' attraction to this category may have been a function of both lack of familiarity with the other categories, as well as to a reluctance to use them. The clinicians also manifested their best performance on normal protocols, but the discrepancy between their performance on normal protocols, as opposed to other categories, was not nearly as great as for the nonprofessionals.

When diagnostic performances within categories were intercorrelated for all the nonprofessional judges, the resulting coefficients were generally low and positive. No coefficient exceeded a value of .17. Thus, performance within a given diagnostic category appeared to be rather independent of performance within any other category. The best single indicator of success for the entire task was performance on feeble-minded test protocols. The correlation between performance on this category and total hits was .63, although the total hits measure included hits on protocols taken from feeble-minded patients, thus leading to a spuriously high coefficient.

As mentioned earlier, efforts were made to secure a sample of judges

of comparable intelligence. The IQ range in the study was 98-130. Taking this restricting factor into account, it appears that intelligence as measured by the Otis paper and pencil test and performance on this particular diagnostic task are not highly related, given an average or better IQ. This is reflected in the low correlations between IQ and diagnostic accuracy. This relationship is one that could be explored further in succeeding studies.

Several directions for further research in this area can be suggested on the basis of this study. First, there is a need to further study the psychodiagnostic abilities of nonprofessionals by using broader populations and more extensive diagnostic materials. No adults from varying educational and cultural backgrounds were tested in the current study due to the prohibitive sampling difficulties that this would present. Yet, it would be of interest and potential value to know the capabilities of the entire populace in this regard.

Second, a major finding of the current study was that diagnostic accuracy is more highly related to exposure to psychology than to years of overall education. Future research might go further by examining the roles of different types of exposure to the field and comparing their influence. An interesting start in this direction was made by Goldberg (1968), who studied the role of feedback in clinical training.

Finally, more work might be done with the test materials taken from schizophrenic patients. An intriguing question concerns the reasons for the superiority of professional performance on this category, even when nonprofessionals are given a chance to use more familiar terminology. More intensive analyses of schizophrenic verbalizations on tests might reveal why nonprofessional judges find it difficult to classify them.

## CHAPTER VI

### SUMMARY

The purpose of this study was to investigate the effects of educational level, exposure to psychology, and diagnostic nomenclature on the judgment of psychopathology from vocabulary test protocols by nonprofessionals. Five categories of psychopathology were used as judgmental alternatives. A  $3 \times 2 \times 2 \times 5$  factorial design was used to test the effects of these variables. The educational levels were high school senior, college underclassman, and college upperclassman. The two levels of exposure to psychology were unexposed to any coursework and exposed to introductory psychology. The two types of nomenclature were the standard terms used by mental health professionals and layman's equivalent terms. The five categories of psychopathology were organic, feeble-minded, schizophrenic, psychoneurotic, and a normal alternative.

A significant main effect for the exposure to psychology across all diagnostic categories was found. The performance of judges exposed to coursework in psychology exceeded the performances of judges lacking this exposure, as predicted. However, no significant effects were found for the educational level variable. This was true even when the educational range was broadened to include a group of high school sophomores not exposed to psychology courses. The diagnostic nomenclature variable was not significant by itself as a main effect, but interactions between nomenclature  $\times$  exposure to psychology and nomenclature  $\times$  diagnostic category emerged that were at or near the .05 confidence level. In the first interaction, judges exposed to an intro-

ductory psychology course benefited more from the use of laymen's terminology than judges lacking this exposure. In the second interaction, laymen's terms helped the judges classify the tests taken from organic and psychoneurotic patients more accurately, as predicted, but unexpectedly hindered them in judging the tests taken from feeble-minded and schizophrenic patients.

A group of clinical psychologists who had judged the same test protocols in an earlier study showed superior performance over the student judges over all diagnostic categories combined. However, the student judges exceeded the clinicians on the protocols taken from organic and psychoneurotic patients. The clinicians showed their clearest superiority on the protocols taken from schizophrenics. No group of student judges attained a chance level of performance for this category. The students tended to avoid using the more severely pathological alternatives for judgment, although the students who had exposure to psychology coursework applied the sicker labels more freely. Future lines of research might investigate the reasons for the nonprofessionals' consistent avoidance of the use of the "sick" categories such as "insane".

Other investigations in the future might also go further in clarifying the effects of varied kinds of exposure to the field of psychology, since the importance of this variable emerged in the current study. No adults nor individuals from varying cultural backgrounds were used as judges in this study due to great sampling problems, but this could provide some leads for future studies.

The judges in the current study were chosen from groups that were comparable in regard to intelligence (average or better). Within this limited range, IQ as measured by a group paper and pencil test showed little relationship with the ability to diagnose psychopathology from test materials.

## REFERENCES

- Cline, V. B. Ability to judge personality assessed with a stress interview and sound-film technique. Journal of Abnormal and Social Psychology, 1955, 50, 183-187.
- Estes, S. G. Judging personality from expressive behavior. Journal of Abnormal and Social Psychology, 1938, 33, 217-236.
- Geertsma, R. H., & Stoller, R. J. The objective assessment of clinical judgment in psychiatry. Archives of General Psychiatry, 1960, 2, 278.
- Goldberg, F. R. Simple models or simple process: Some research on clinical judgments. American Psychologist, 1968, 23, 483-496.
- Grigg, A. E. Experience of clinicians, speech characteristics, and statements of clients as variables in clinical judgment. Journal of Consulting Psychology, 1958, 22, 315-319.
- Hunt, W. A. & Arnhoff, F. N. The repeat reliability of clinical judgments of test responses. Journal of Clinical Psychology, 1956, 12, 289-290.
- Hunt, W. A., Jones, N.F. & Hunt, E. B. Reliability of clinical judgment as a function of clinical experience. Journal of Clinical Psychology, 1957, 13, 377-378.
- Hunt, W. A., & Walker, R. E. A comparison of global and specific clinical judgments across several diagnostic categories. Journal of Clinical Psychology, 1962, 28, 188-194.



- Jones, N. F. Context effects in judgment as a function of experiences. Journal of Clinical Psychology, 1957, 13, 379-382.
- Jones, N. F. The validity of judgments of schizophrenic pathology based on verbal responses to intelligence test items. Journal of Clinical Psychology, 1959, 15, 396-400.
- Jones, N. F., & Kahn, M. W. Dimensions and consistency of clinical judgment as related to judges' level of training. Journal of Nervous and Mental Disease, 1966, 142, 19-24.
- Lehman, H. E., Ban, T. A., & Donnell, M. Rating the rater. Archives of General Psychiatry, 1965, 13, 67-75.
- Luft, J. Implicit hypotheses and clinical predictions. Journal of Abnormal and Social Psychology, 1950, 45, 756-759.
- McMahon, F. B. Clinical training: a variable in psychological test interpretation. Unpublished doctoral dissertation: Washington University, 1965.
- Mahrer, R. R. Psychodiagnostic preference by professional affiliation and length of experience. Journal of Clinical Psychology, 1962, 18, 14-18.
- Nunnally, J. Popular conceptions of mental health. New York: Holt, Rinehart, and Winston, 1961.
- Oskamp, S. The relationship of clinical experience and training to several criteria of clinical prediction. Psychological Monographs, 1962, 76, Whole No. 547.
- Otis, A. Quick scoring tests of mental ability. New York: World Book Co., 1954.

- Rioch, M. J., Elkes, C., Fline, A. A., Usdansky, B., Newman, R., & Silber, E. National Institute of Mental Health pilot study in training mental health counselors. American Journal of Orthopsychiatry, 1963, 33, 678-689.
- Schwartz, M. L., Hunt, W. A., & Walker, R. E. Clinical judgment of vocabulary responses in process and reactive schizophrenia. Journal of Clinical Psychology, 1963, 19, 488-494.
- Shoben, E. J. Counseling. Annual Review of Psychology, 1956, 7, 147-169.
- Soskin, W. F. Bias in postdiction from projective tests. Journal of Abnormal and Social Psychology, 1954, 49, 69-74.
- Stoller, R. J., & Geertsma, R. H. The consistency of psychiatrists' clinical judgments. Journal of Nervous and Mental Disease, 1963, 137, 58-66.
- Taft, R. The ability to judge people. Psychological Bulletin, 1955, 52, 1-23.
- Walker, C. E. & Linden, J. D. Varying degrees of psychological sophistication in the interpretation of sentence completion data. Journal of Clinical Psychology, 1967, 23, 229-232.
- Watson, C. G. Relationship of distortion to Draw-A-Person diagnostic accuracy among psychologists at three levels of sophistication. Journal of Consulting Psychology, 1967, 31, 142-146.
- Wechsler, D. The measurement and appraisal of adult intelligence. Baltimore: Williams and Wilkins, 1958.
- Weinstein, S., & Johnson, L. The Bender-Gestalt Test in differential diagnosis of temporal lobectomy and schizophrenia. Perceptual and Motor Skills, 1964, 18, 813-820.

Zimny, G. H., & Lair, C. V. Clinical judgment in psychiatry. Archives of General Psychiatry, 1967, 16, 399-406.

Zolik, E. S., & Stotsky, B. Relationships between problem labelling and treatment referrals by laymen. Community Mental Health Journal, 1966, 2, 114-120.

## **Appendix A. Test Materials**

I. Information Sheets, Instructions, and Data Sheets

Please fill out the information on this page before continuing with the rest of the experiment.

Name \_\_\_\_\_

Age \_\_\_\_\_

Year in School \_\_\_\_\_

Are you now taking, or have you ever taken a course in psychology?

If so, please list the course or courses, indicating whether they were high school or college level.

Instructions

We are presenting you with a number of vocabulary test responses. On each sheet, you will see the test word at the left and the definition given by the subject at the right. These responses were taken from normal, psychoneurotic, organic brain damaged, schizophrenic, and feeble-minded individuals. We are asking you to read each test and decide the kind of patient that produced it. In other words, classify each test according to whether the patient was N(ormal), P(sychoneurotic), O(rganic), S(chizophrenic), or F(eeble-minded), indicating your classification by placing the appropriate capital letter in the space provided on the accompanying data sheet.

If you are not sure what all these terms mean, just go ahead and do the best you can.

DATA SHEET

TEST NUMBER

JUDGMENT (N, P, S, O, or F)

1	_____
2	_____
4	_____
10	_____
12	_____
14	_____
15	_____
16	_____
18	_____
19	_____
20	_____
23	_____
27	_____
28	_____
30	_____
31	_____
33	_____
34	_____
35	_____
38	_____
40	_____
43	_____
46	_____
48	_____
49	_____
50	_____
52	_____
54	_____
57	_____
58	_____

Instructions

We are presenting you with a number of vocabulary test responses. On each sheet, you will see the test word at the left and the definition given by the subject at the right. These responses were taken from normal, nervous, brain damaged, insane, and stupid individuals. We are asking you to read each test and decide the kind of patient that produced it. In other words, classify each test according to whether the patient was Normal, Nervous, Brain damaged, Insane, or Stupid, indicating your classification by placing the appropriate capital letter in the space provided on the accompanying data sheet.

If you are not sure what all these terms mean, just go ahead and do the best you can.



DATA SHEET

<u>TEST NUMBER</u>	<u>JUDGMENT (No, Ne, I, B, or S)</u>
1	_____
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## II. Test Protocols Used by Judges

### 1. Organic

Winter	Season of year at which time weather is cold...snow and ice.
Repair	Repair...system we use to put things in order.
Breakfast	Breakfast is a meal...usually first meal of the day.
Fabric	Generally produced into or rather is a cloth...can be made from cotton, wool, and used for clothing.
Slice	Slice...is action of cutting.
Assemble	Is action of putting things together.
Conceal	Conceal is a means by which we may hide things.
Enormous	Enormous can be anything as long as it is extremely large.
Hasten	Action word...we are moving very quickly.
Sentence	Sentence...is a construction of words into a sensible pattern so we can understand.
Regulate	Is means by which certain things are put in order.
Commence	Commence...usually beginning of something.
Ponder	Ponder...to think over...to decide.
Cavern	Cavern...usually a large hole in the ground.
Designate	Is same as specifying something.
Domestic	Domestic can be used in several ways...can mean home ground or associated with home brew.
Consume	Something like eating...is using up of materials.
Terminate	Means the end
Obstruct	To get in way of...interfere

Remorse	Remorse equals sadness.
Sanctuary	Is a place...can be either for just thinking or a kind of place of quiet like a church, for example.
Matchless	Matchless...means something not equal or...no best word for it.
Reluctant	Reluctant...idea of not being willing to do something
Calamity	Disaster
Fortitude	Fortitude...that's something like an inner strength.
Tranquil	Tranquil...that's very easy going.
Edifice	Edifice is a building. What type I don't know.
Compassion	Concerned with
Tangible	Something we can see and touch. Something actually there.
Perimeter	Outer edge of an object
Audacious	Sor of like rowdy I think.
Ominous	Is spooky
Tirade	Tirade is very loud expounding about something.
Encumber	Means to load up
Plagiarize	To copy
Impele	Like putting stick thru or something
Travesty	Don't know

## 2. Feebleminded

Winter	When it's cold outside, snow, rain
Repair	Repair the houses and furnitures...to remodel the stuff
Breakfast	When you eat
Fabric	I don't know that one

Slice	I don't know that one.
Assemble	I don't know that one.
Conceal	I don't know that one.
Enormous	I don't know that one.
Hasten	I don't know that one.
Sentence	I don't know that one.
Regulate	I used to know that, but I don't no more.
Commence	I used to know that, but I don't no more.
Ponder	I don't know that one.
Cavern	I don't know that one.
Designate	I used to know it, but not no more.
Domestic	It sounds like Mexican. I used to know some of those words, but not no more.
Consume	I don't know that one.
Terminate	I used to know that, but I don't no more.
Obstruct	I forgot what that is.
Remorse	Means marking, ain't it?'
Sanctuary	I don't know.
Matchless	Sounds like matches, ain't it?
Reluctant	Relax
Calamity	In a certain way, but I can't get the word out.
Fortitude	I don't know that.
Tranquil	Something like a transverse...that's what they call it.
Edifice	I don't know that one.
Compassion	I don't know that one.
Tangible	I don't know that one.

Perimeter	That's another one that is new to me.
Audacious	Audacious? Sounds like dishes to me.
Ominous	Sounds like hominy, ain't it?
Tirade	Tirade? Sounds like tire to me.
Encumber	Income tax
Plagiarize	I don't know that one.
Impale	Sounds like a pail of water to me.
Travesty	Traveling

### 3. Schizophrenic

Winter	Winter is a season of the year. (?) Well, you have four seasons, winter, summer, fall and spring. Winter is the season when the sun is furthest from the earth and due to that fact the earth is coldest.
Repair	Repair means to fix something. To put into original condition. Like if a radiator is broken you look into the top to see what was wrong. I you're repairing your car--(patient tells a long, very rapid story of how to repair an auto motor if it isn't running right)
Breakfast	Breakfast is the meal... the first meal of the day.
Fabric	Fabric is a form of cloth, usually tightly woven.
Slice	Slice means to cut up and eat in pieces.
Assemble	Assemble means to put together.
Conceal	Conceal means to hide something away so it's not noticed. Hide isn't good enough...like camouflage...you camouflage a jeep so it can't be noticed. You've concealed it. Same with a

tank you camouflage a tank so it can't be noticed. You've concealed it.

Enormous

Enormous means large, out of proportion, amazon.

Hasten

To hurry

Sentence

Sentence...what kind of sentence? Well, there's a group of words expressing a complete thought...that's one kind of sentence.

Regulate

Regulate means to adjust...just like a person can regulate their surroundings. I'm not too sure that's correct. You could adjust something mechanical. That would be regulated. So adjust...seems to me it should be used only in the mechanical sense.

Commence

To begin, to start.

Ponder

Ponder means to reason out, to slowly go over in your brain...you're at a standstill, just momentarily thinking.

Cavern

Cavern? It's a type of an underground cave.

Designate

When you designate something you point it out.

Domestic

Domestic means at home...domestic means home.

Consume

Consume means to use up...when a person or animal devours something, it consumes it. Or wear it out...no, when you wear out a tie you say you consume it. You wear it out.

Terminate

Terminate means time has been used up. Terminate a contract.

Obstruct

Obstruct means to stand in the way of.

Remorse

Sorrow...feeling of sorrow (?) Like a person who's remorseful is sorry. Either sorry for something he's done, or if you kill someone he's sorry...he has a feeling of remorse.

Sanctuary	A sanctuary is a place where you go to feel safe...like a sanctuary in an army fort. People look for different kinds of sanctuary. Some people want to get away from the world - find sanctuary in that.
Matchless	Matchless, matchless, let's see...I'd say unable to compare. (?) It's something...like you had a rare type of a flower, it wouldn't compare with another type of rare flower...it's rare, it's matchless.
Reluctant	Reluctant, oh, that's a very good word...it's a feeling of "I don't want"...like you could be reluctant to an idea. Something like that leads to a lot of trouble, so you're reluctant to do that.
Calamity	I don't know. Well, wait a minute. I think calamity would be a series of emotions caused by a disturbing factor or unusual circumstance. That would be a calamity, I think, an unusual circumstance would be a reason behind it.
Fortitude	Fortitude. Fortitude. That's a good word...fortitude...I have no idea.
Tranquil	Tranquil is usually a good feeling.
Edifice	Edifice...nope.
Compassion	Compassion...compassion...is a feeling toward somebody or about somebody.
Tangible	Tangible...you could say this object is tangible. Let's see ...you can say something is intangible. I don't know. I should know that. I'm a dummy. Well, let's see, an arc-tangent ...no, it's too deep for me.

Perimeter	Oh, a perimeter means the distance around an object.
Audacious	Audacious wouldn't that be...would that be a type of a person, audacious? It would be a person who jumps at another person, from the way it's used in a sentence.
Ominous	I don't know.
Tirade	I don't know.
Encumber	Encumber would be to surround, encumber would be to completely envelope, to surround.
Plagiarize	I don't know.
Impale	I know what impair means. I don't know. Could be a lot of things.
Travesty	I don't know.

#### 4. Psychoneurotic

Winter	That's a season when it changes from fall to winter.
Repair	Well, it means if something is broken, you put it back in good order.
Breakfast	It's the first meal of the day when you arise...presently, in the a.m.
Fabric	Form of manufactured cloth.
Slice	Usually means to cut something, like a slice of bread or ham. But you can slice with a sword. It could also mean a piece ...like a piece of cake.
Assemble	It means to gather a bunch of components and assemble them in a numerical order or the way they are supposed to be to reach some end or finished product.



Conceal	It would mean to hide or put out of sight...either an object or a verbal thing.
Enormous	Ah...it is a description of size in comparison to something else. This building is enormous compared to me, but small compared to the Empire State Building.
Hasten	That would mean to hurry up or to speed up some process in motion.
Sentence	It's a word...a group of words to make an intelligent meaning or betray a message...to get across a message.
Regulate	That would be to put certain conditions on a thing or to control it so that it would conform to a process or pattern.
Commence	It would be the beginning...in other words, you are starting something.
Ponder	It would be to wonder or think about something...to give it thought
Cavern	That would be a...usually a hole in the ground...a natural cave...or it wouldn't have to be natural...you could build a cavern.
Designate	That would be to appoint something or someone...to make a specific choice.
Domestic	That's...could be several things... a domestic animal that has learned to live in civilization with mankind.
Consume	To use up in some manner or form.
Terminate	That would be to end something or to bring a halt to some process.
Obstruct	It would be to end something or to bring a halt to some process

Remorse	Means to feel sorrow...to have bad feelings over something ...not bad, but sorrowful.
Sanctuary	Well, usually it is a place where you can go and feel secure.
Matchless	It means two things that aren't in harmonious conjunction. They don't match. They're not the same thing.
Reluctant	It means you don't particularly want to do it. You are reluctant to get out of bed in the morning or you are reluctant to undertake to do something you don't feel is right.
Calamity	Usually a form of disaster...something that has happened to a person or a project that has hurt him immensely.
Fortitude	What would be a form of...you would say a person has fortitude if he has convictions and sticks with them. He goes all out for his convictions.
Tranquil	That could be peace of mind...in other words you are not tied up with emotional problems of any kind. You are just happy.
Edifice	I'm not sure...I think it means explain.
Compassion	It means you have feelings for something or someone...sympathize with them.
Tangible	Well, that could be...something that is tangible could be something possible. Actually, that is not the correct definition, but I can't think of anything but a circle with a tangent. Maybe that's it...it means come close and touch at one point.
Perimeter	That would be the distance around a certain object or given area. It would be two or three dimensional.
Audacious	I don't know.

Ominous	I'm not sure of that one either. I know what it is, but I can't think of it.
Tirade	That I don't know either. I know it, but I can't think of it.
Encumber	It means to come across something I would imagine.
Plagiarize	Nope.
Impale	Nope...couldn't give a good explanation of it anyway.
Travesty	No, too.

## 5. Normal

Winter	Winter is the cold season of the year, which begins with the shortest day of the year.
Repair	To correct breakdown defects and restore to operating condition.
Breakfast	The first meal of the day, eaten shortly after rising.
Fabric	Several meanings, one of them is cloth. Another is any materiality.
Slice	A comparatively thin flat portion cut from a larger body of material.
Assemble	Bring together, collect.
Conceal	Hide
Enormous	Very large
Hasten	Speed
Sentence	A group of words expressing a complete thought.
Regulate	Control
Commence	Begin

Ponder	To consider at length, to think carefully and probably slowly.
Cavern	Cave
Designate	To point out and specify an individual, to nominate - Individual does not mean people only...may mean things.
Domestic	Pertaining to the home.
Consume	To use up or to eat.
Terminate	Complete, finish.
Obstruct	To interfere with.
Remorse	A feeling of guilt mixed with sorrow.
Sanctuary	A place of safety.
Matchless	Without equal, used in the sense of superior.
Reluctant	Preferring not to do something
Calamity	Disaster
Fortitude	Courage
Tranquil	Peaceful, serene
Edifice	An imposing structure...a structure, usually imposing.
Compassion	Sympathy for one who has difficulties.
Tangible	Subject to being touched, concrete.
Perimeter	Border
Audacious	Courageous in taking risks and frequently in defying convention
Ominous	Threatening
Tirade	An angry and ill-tempered speech.
Encumber	Burden
Plagiarize	To steal the writings of another...to use without credit, to copy.
Impale	To pierce onto or through with a long narrow object.

Travesty      A distortion, a...turning from proper usage.

6. Normal

Winter      Cold, snow, and have colds and sickness...makes you think of winter...mainly that it's cold.

Repair      Fixing something that's broken.

Breakfast      First meal

Fabric      Clothing

Slice      A thin layer of just anything...oh, bread...meat.

Assemble      Oh, let's see, well...just can't think what you say it is.

Conceal      To hide

Enormous      Large in proportion...large in size I should say.

Hasten      Hurry

Sentence      A saying of some kind or a...don't know...an expression to express it, make a sentence out of it...to write a line about something.

Regulate      To control

Commence      To start

Ponder      Think about.

Cavern      Something like a cave...in a mountain I guess...or a slight indentation in a mountain.

Designate      To define something

Domestic      Home life

Consume      To absorb something.

Terminate      Expire

Obstruct      To block something.

Remorse	Sadness
Sanctuary	Well, let's see, I say it's like an institution of some sort... don't know directly how to say it...something like a church.
Matchless	Unlike
Reluctant	Oh, refuse
Calamity	A tragedy
Fortitude	Sort of...a stronghold.
Tranquil	Tranquil, that's like a...oh...like a medicine to increase your physical feeling I guess.
Edifice	Edifice? I don't know.
Compassion	Sort of a companionship I guess. I don't know, something in those channels I guess.
Tangible	Oh...I know what I mean but I just can't seem to...oh, like an interest, just don't know how to describe it.
Perimeter	It's...perimeter is like a...ah...a pyramid, a measure of some sort.
Audacious	I don't know.
Ominous	Like an interesting...oh, see...something interesting but unbelievable.
Tirade	I don't know.
Encumber	Oh, encumber...I don't know.
Plagiarize	Don't know.
Impale	To disfigure or destroy something.
Travesty	I don't know.

7. Normal

Winter	The cold season of three months or thereabouts.
Repair	To restore to former, better, and normal condition.
Breakfast	The first meal after fasting, usually the first in the day.
Fabric	Either literally or figuratively, a basic formed or manufactured material
Slice	A piece cut off of a larger whole, usually thin.
Assemble	To put together.
Conceal	To hide
Enormous	Of unusually large size
Hasten	To speed up or hurry.
Sentence	A group of words expressing at least one consecutive thought... I'm sorry, one complete thought.
Regulate	To govern.
Commence	To begin.
Ponder	To consider deeply with oneself.
Cavern	A large, usually empty, cave or hole.
Designate	To single out for attention
Domestic	Pertaining to one's ...home.
Consume	To use up or to burn.
Terminate	To reach a boundary or to end...boundary or goal...no, boundary.
Obstruct	To stand in the way of, to block.
Remorse	Regret
Sanctuary	A place of safety.

Matchless	Without peer.
Reluctant	Unwilling or not willingly.
Calamity	A major tragedy or misfortune.
Fortitude	Courage, determination.
Tranquil	Calm, serene
Edifice	Any building, usually large or imposing.
Compassion	Sympathetic regard or understanding.
Tangible	Capable of being physically touched.
Perimeter	A complete boundary around outside edge.
Audacious	Bold
Ominous	Portentous
Tirade	An outburst of angry speech
Encumber	To hinder
Plagiarize	To steal works or ideas of another person.
Impale	Can't think of word I want...to put on a skewer, to skewer I guess.
Travesty	A mockery

#### 8. Feeble-minded

Winter	Cold weather
Repair	Fix up
Breakfast	To eat
Fabric	To wear
Slice	To cut
Assemble	Put together



Conceal	Hide
Enormous	Big
Hasten	Rush
Sentence	Question...question, to write a sentence.
Regulate	Put together
Commence	Start
Ponder	Tap
Cavern	Got me on that
Designate	Distance
Domestic	Variety
Consume	To order
Terminate	Distinguish
Obstruct	Destroy
Remorse	You got me on that.
Sanctuary	Safe...safe place, sanctuary to hide.
Matchless	Like they match something, and it ain't the right match. That's what they call matchless.
Reluctant	Like you buy something, and it's high priced. That's what they call reluctant..valuable.
Calamity	Some incident...just an incident..most anything.
Fortitude	Just like a fort...fortitude.
Tranquil	You got me there.
Edifice	Edifice? You got me there.
Compassion	Compassion? Something like a...something like is going to happen in your life and it happens. That's what you call compassion.

Tangible	Tangible? Go to buy something, and it's precious. That's tangible.
Perimeter	You got me there.
Audacious	You got me there.
Ominous	Something like happened a long time ago. That's what you call ominous.
Tirade	You got me there.
Encumber	You got me there.
Plagiarize	You got me there.
Impale	Like you're sick or something, and you got impale.
Travesty	You got me.

#### 9. Organic

Winter	Snow
Repair	Fix
Breakfast	Each chow
Fabric	Linen
Slice	Cut in two
Assemble	Put together
Conceal	Hide
Enormous	A lot...a tremendous amount.
Hasten	Quiet
Sentence	Period...period is at the end of a sentence.
Regulate	Take care
Commence	Start

Ponder	Do something
Cavern	I hide cavern...I hide in a cavern...go in.
Designate	Means something
Domestic	I don't know.
Consume	Take it all
Terminate	All done
Obstruct	Take apart
Remorse	I don't know.
Sanctuary	Church
Matchless	Only...only one like it.
Reluctant	I don't know.
Calamity	Only one like it.
Fortitude	I don't know.
Tranquil	I don't know.
Edifice	I don't know.
Compassion	Some days we feel compassion...good.
Tangible	I don't know.
Perimeter	I don't know.
Audacious	I don't know.
Ominous	A tremendous amount
Tirade	I don't know.
Encumber	I don't know.
Plagiarize	I don't know.
Impale	I feel impaled...bad.
Travesty	I don't know.

10. Schizophrenic

Winter	Winter is a season of the year. (?) It's the cold season of the year.
Repair	Repair means to return to original condition.
Breakfast	Means to break the fast of the night...I know, I've taken this test before.
Fabric	That one strikes as being a little tough...a fabric is a woven material.
Slice	Slice? Means to cut through.
Assemble	To put together.
Conceal	To cover or hide.
Enormous	Large
Hasten	To speed
Sentence	Sentence is a statement. (?) That doesn't mean prison sentence, does it? Well, that's a little tough - to a grammarian a sentence is a complete statement.
Regulate	To control.
Commence	To begin
Ponder	Think
Cavern	Cave
Designate	Name
Domestic	Domesticate (no, domestic) Oh, domestic means pertaining to the household.
Consume	Consume? To...in one way to eat...has a broader meaning than that. To use up.

Terminate	To end
Obstruct	To stop (?) Well by putting something in the way of.
Remorse	Regret
Sanctuary	Refuge...wait, is that correct? Retreat, I think would be a better word for sanctuary.
Matchless	Unequalled or unequal, I should say.
Reluctant	Unwilling
Calamity	Catastrophe
Fortitude	Strength (?) Well, it does involve bravery, generally. Strength of condition is probably what you're fishing for.
Tranquil	Quiet
Edifice	Structure
Compassion	Pity
Tangible	Real (?) Tangible? Something that is tangible is something which has observable and measurable quantity or quality.
Perimeter	Rim or circumference
Audacious	Bold
Ominous	Scary
Tirade	Only word I can think of is rant. Must be a better way of putting it than that.
Encumber	To burden.
Plagiarize	Steal (?) It's used to... in reference to stealing of...to use or to take the written material of somebody without giving him credit for it.
Impale	Impale? That means to pierce...I believe to pierce on something solid or immobile.

Travesty      Comedy (?) That isn't too complete, is it? That is, well, it's a comedy of tragic mistakes.

11. Organic

Winter      Season...the fact that it's cold.

Repair      Fix

Breakfast      To eat

Fabric      Cloth...could be a metal fabric too.

Slice      To cut

Assemble      Congregate

Conceal      To hide

Enormous      Exceptionally large

Hasten      To hurry

Sentence      A complete meaning of what you're saying...has to have a noun and a verb.

Regulate      To meter

Commence      Begin

Ponder      To weigh one thing against another

Cavern      Underground removal by water of lime deposits.

Designate      Point out

Domestic      Animals and human beings being tamed...that's a funny one.

Consume      Eating...could mean reading a book or consuming things with our senses.

Terminate      The end

Obstruct      To block

Remorse	Sorrow over something that's happened.
Sanctuary	Give a place of freedom or rest...India is a sanctuary for Tibetans now.
Matchless	Incomparable
Reluctant	Hesitant
Calamity	A particular turmoil...for example, an earthquake, a fire, etc.
Fortitude	Courage to carry on.
Tranquil	Soothing the senses
Edifice	The front of a building is considered an edifice.
Compassion	Feeling for others.
Tangible	Can be used...a pencil and paper to some people is tangible.
Perimeter	Outer measurement of a particular area.
Audacious	A person who doesn't stop and think what he's doing...steps on somebody's toes.
Ominous	I'd guess at...unknown, or obvious...it could be either.
Tirade	Politician's line...used to impress or cause fear.
Encumber	To meet.
Plagiarize	Use somebody else's writing..take it and give it as your own.
Impale	Can impale yourself on a picket fence if you fall on it... stick yourself or knights of old used a lance to impale a person.
Travesty	Don't know...might be trespassing mentally or physically.

## 12. Schizophrenic

Winter	Cold weather	Remorse	Sorrow
Repair	Fix something up	Sanctuary	Abode
Breakfast	Morning meal	Matchless	Unique
Fabric	Cloth	Reluctant	Unwilling
Slice	A strip	Calamity	Catastrophe
Assemble	Assign	Fortitude	Enduring
Conceal	Hide	Tranquil	Peaceful
Enormous	Great	Edifice	Building
Hasten	Quicken	Compassion	Understanding
Sentence	An expression	Tangible	Within reach
Regulate	Control	Perimeter	Surrounding
Commence	Begin	Audacious	I don't know
Ponder	Wonder - think	Ominous	Endangering
Cavern	Cave	Tirade	I don't know
Designate	Point out	Encumber	To hinder
Domestic	Local	Plagiarize	I don't know
Consume	Eat	Impale	To push
Terminate	End	Travesty	A trespass
Obstruct	Block		



### 13. Psychoneurotic

Winter	Well, winter, of course, pertains to cold weather, ice and snow...temperature is above normal.
Repair	Repair is to make an adjustment on something that has been broken
Breakfast	Breakfast means food that you partake at the beginning of each day.
Fabric	Fabric is a piece of material.
Slice	To slice is well...if you need several cuts of meat, you have to slice it, in other words, to cut.
Assemble	To assemble...that is something you put together.
Conceal	Conceal is something to hide.
Enormous	Enormous is something big, oversize.
Hasten	Hurry something...in other words fast pace.
Sentence	Sentence is something that...it can refer to jail sentence or sentence that can be written.
Regulate	Time element.
Commence	To start
Ponder	Ponder is to...well, when you say ponder your thoughts, you hesitate your thoughts.
Cavern	Cavern is something like part of a ravine, a cave, an opening.
Designate	Designate is to pick from.
Domestic	Domestic is, well, pertaining to houseware, perhaps, or animal life, help.
Consume	To consume is to buy, to take in.

Terminate	Loss of job, perhaps
Obstruct	To...to obstruct... in other words to destroy.
Remorse	Remorse is, well, kind of down in dumps...well, brood you might say.
Sanctuary	Sanctuary is, well, where you place yourself...a place where you are alone.
Matchless	Matchless is something you don't match up...it doesn't match.
Reluctant	Against
Calamity	Let's see, calamity...somebody...I can't explain it...jolly ...Calamity Jane.
Fortitude	Someone, perhaps, might have ambition, perhaps
Tranquil	Tranquil...well, let's see...tranquil...I'll by-pass that one.
Edifice	This one too...I'm not familiar with the termination.
Compassion	Say without affection perhaps
Tangible	Someone that is reliable, capable...something that stands
Perimeter	I don't know.
Audacious	I don't know.
Ominous	O...I see... Ominous...I can't get that one either at the moment.
Tirade	Tirade...somebody naughty...or opposite of someone good or fine.
Encumber	I don't know.
Plagiarize	I don't know.
Impale	I don't know.
Travesty	I don't know. I've never come in contact with the last four. I can't recall ever using these words.

14. Normal

Winter	It's a...name for a season.
Repair	Repair is to fix or mend.
Breakfast	It's the morning meal
Fabric	Well, that would be cloth, material.
Slice	Slice could be to cut or a part of, such as, a slice of cake.
Assemble	Put together
Conceal	Hide
Enormous	That would be something large.
Hasten	Hasten. That's to go faster.
Sentence	That could be a group of words or it could also be...such as, in court a sentence would be a debt to be paid.
Regulate	Well, that is to change or control.
Commence	That's to start
Ponder	That would be to think.
Cavern	That would be a large underground cave.
Designate	Designate...appoint or...let's see...I imagine ascertain would be about the same.
Domestic	Ah...referring to animals that would be tame.
Consume	Well, that would be to eat or fire would destroy...consume it.
Terminate	That's to end.
Obstruct	That would be an obstacle..to place an obstacle is to obstruct.
Remorse	Sadness.
Sanctuary	That would be a holy place or a place of shelter.
Matchless	In athletics it could be unbeatable. Pertaining to two objects, it could be...well, only one or an original.

Reluctant	Unwilling
Calamity	Misfortune
Fortitude	Staunchness
Tranquil	Calm
Edifice	I'm not sure about that one.
Compassion	Pity
Tangible	That would be probable or...believable.
Perimeter	The outer area of a circumference.
Audacious	I'm not sure.
Ominous	To be unknown
Tirade	I don't know that one.
Encumber	I believe that's to hinder.
Plagiarize	I don't know that one.
Impale	I don't know.
Travesty	That would be pain.

15. Feeble-minded

Winter	Means cold days or snow, cold weather, wind
Repair	Repair...if you want to go out, you get all repaired for it.
Breakfast	When you get up in the morning, you eat your breakfast before you got to work.
Fabric	Fabric...you got me on that one.
Slice	Oh, this means like you're slicing meat. Slice it in two. Or slice your finger with a knife.
Assemble	Assemble? What you put over your finger when you sew to

to keep from sticking yourself.

Conceal            Like seal up a box to send out...tape up a package to mail.

Enormous          Enormous? You got me on that one.

Hasten            I don't know about that one either.

Sentence          Like when you're writing a letter and you cut something out  
and put something else in place of it.

Regulate          Regulate? Keep something going...like a motor.

Commence          Commence? I don't know about that one. You got me on that one.

Ponder            Pound something in...nail and hammer.

Cavern            Like a cabinet to put books in

Designate          I don't know.

Domestic          I don't know that one either.

Consume           I don't know that one either.

Terminate          I don't know.

Obstruct          Like a...let's see...to make a small job out of a big job.

Remorse           Don't know.

Sanctuary          Don't know.

Matchless          Match something together...make it look the same.

Reluctant          Don't know.

Calamity           Don't know.

Fortitude          Like afford a check and your name.

Tranquil           Don't know.

Edifice            Don't know.

Compassion          Don't know.

Tangible           Don't know.

Perimeter          Don't know.

Audacious	Don't know.
Ominous	Don't know.
Tirade	Don't know.
Encumber	Don't know.
Plagiarize	Don't know.
Impale	Don't know.
Travesty	Don't know.

#### 16. Psychoneurotic

Winter	It is a season of the year.
Repair	To rebuild...fix.
Breakfast	Breakfast is the first meal of the day...means you're breaking a fast.
Fabric	Fabric is a type of material.
Slice	To cut
Assemble	To put together
Conceal	To hide
Enormous	A large amount
Hasten	To quicken
Sentence	A volume of words.
Regulate	To adjust or to...adjust
Commence	To begin
Ponder	To think about
Cavern	Cavern...it's an opening
Designate	Select
Domestic	Homelike...dealing with the home.

Consume	To take upon
Terminate	To end
Obstruct	To be in the way of.
Remorse	Regret
Sanctuary	Privacy
Matchless	Matchless...oh, gosh, I got the word and can't think of it... can't be duplicated.
Reluctant	Unwilling
Calamity	Disaster
Fortitude	Greatness
Tranquil	Equalize
Edifice	Opening
Compassion	Compassion...understanding.
Tangible	Leading
Perimeter	I know what it means but I can't put it in words...perimeter ...something to look up to...that's not right.
Audacious	Audacious...audacious...great...strong.
Ominous	Deadly
Tirade	Rage
Encumber	To come upon
Plagiarize	Got me
Impale	To stick something on
Travesty	Got me

17. Feebleminded

Winter	Cold weather
Repair	Repair furniture...fix'em up .
Breakfast	Eat
Fabric	Put the fan together
Slice	Slice meat...make a sandwich of it.
Assemble	Use it on your finger
Conceal	You conceal an envelope or anything. Then mail it out.
Enormous	Your temperature is normal and right.
Hasten	People hates you and you hates them.
Sentence	I don't know.
Regulate	You can regulate a watch. Make it run.
Commence	Pay attention
Ponder	I don't know much about that one.
Cavern	Wooden cabin
Designate	You aggravate me too much.
Domestic	Send a message to somebody.
Consume	Like you consume fast
Terminate	I don't know much about that.
Obstruct	You strike something.
Remorse	I don't know much about that.
Sanctuary	I don't know what that one is.
Matchless	Matchbooks
Reluctant	Civilized
Calamity	Naps



Fortitude	I don't know about that one.
Tranquil	On the radio
Edifice	I don't know about that one.
Compassion	People are passing by too much.
Tangible	That's an orange.
Perimeter	I don't know about that.
Audacious	I don't know about that one either.
Ominous	You harm somebody
Tirade	I don't know.
Encumber	I don't know.
Plagiarize	Play
Impale	Your face looks pale.
Travesty	Your'e going to travel somewhere.

18. Normal

Winter	It means a cold season, snow.
Repair	Restore, fix, put in operation.
Breakfast	It's the first meal of the day.
Fabric	It's something clothes are made of.
Slice	To cut something.
Assemble	To put together
Conceal	To hide
Enormous	Large, huge
Hasten	Hurry
Sentence	That's a complete thought.
Regulate	Control

Commence	Begin I guess.
Ponder	That's kind of to wonder like.
Cavern	A cave
Designate	To point out.
Domestic	It means to civilize, to tame down.
Consume	To use something
Terminate	To end
Obstruct	Stop
Remorse	I don't know that one.
Sanctuary	I've heard of a sanctuary as a place where birds and things are kept.
Matchless	That's something you can't compare.
Reluctant	To hold back
Calamity	I don't know that one.
Fortitude	I don't know that one either.
Tranquil	I don't really know that one.
Edifice	I don't know that one either.
Compassion	I don't know.
Tangible	I don't know.
Perimeter	The outside of something.
Audacious	I don't know.
Ominous	I don't know that either
Tirade	I don't know.
Encumber	To load down something.
Plagiarize	I don't know.
Impale	That I don't know.

Travesty            I don't know.

19. Schizophrenic

Winter            A season

Repair            To fix

Breakfast        A meal of the day.

Fabric            A texture...a piece of cloth.

Slice            A piece...a certain amount.

Assemble        Put together

Conceal          Hide

Enormous        Great amount

Hasten           Quicken or hurry

Sentence        Verb plus subject.

Regulate        To organize

Commence        Begin

Ponder           Look over

Cavern           Cave

Designate       Point out

Domestic        General

Consume        Take in

Terminate       End

Obstruct        To stand in way.

Remorse        Regretful

Sanctuary       Help

Matchless       You can't come up to something.

Reluctant	I don't know.
Calamity	Disturbance
Fortitude	Patience
Tranquil	Disturbance
Edifice	Point out
Compassion	A liking for
Tangible	You can see it.
Perimeter	A form of measurement.
Audacious	Audible
Ominous	Stands out
Tirade	Enough
Encumber	Put together
Plagiarize	I don't know.
Impale	I don't know.
Travesty	I don't know.

20. Normal

Winter	It's a time or a season.
Repair	Fix
Breakfast	First meal of the day.
Fabric	Material
Slice	Cut
Assemble	Put together
Conceal	Hide
Enormous	Big

Hasten	Speed up
Sentence	A group of words
Regulate	Control
Commence	Begin
Ponder	Think
Cavern	A cave
Designate	Specify
Domestic	Domestic...domestic...clean.
Consume	Consume...to eat.
Terminate	End
Obstruct	Stop
Remorse	Sorrow
Sanctuary	Well, safety
Matchless	Matchless...that's...not the same.
Reluctant	Hesitant
Calamity	Disaster
Fortitude	Strength
Tranquil	Stop, no...offset something.
Edifice	That I don't know.
Compassion	Feeling
Tangible	Able to grasp.
Perimeter	Distance around.
Audacious	Audacious...I'll have to pass
Ominous	Bad
Tirade	Temper
Encumber	Liens or something like that I imagine.

Plagiarize	Steal
Impale	Beg...no, ask.
Travesty	Farce

## 21. Psychoneurotic

Winter	The cold season of the year.
Repair	Fix
Breakfast	Meal on arising
Fabric	Material
Slice	Section
Assemble	Gather
Conceal	Hide
Enormous	Large
Hasten	Hurry
Sentence	Does that have to be answered in one word? A complete statement grammatically.
Regulate	Control
Commence	Beginning
Ponder	Think
Cavern	Cave
Designate	Indicate
Domestic	Homelike
Consume	Eat
Terminate	End
Obstruct	Dam

Remorse	Sorrow
Sanctuary	Holy place
Matchless	I have the word...I can't get it. It won't come...without comparison...incomparable.
Reluctant	Undesirous
Calamity	Tragedy
Fortitude	Strength
Tranquil	Quiet
Edifice	Building
Compassion	Feeling for is all I can think of.
Tangible	Perceptible
Perimeter	Circumference...area...distance around
Audacious	Bold
Ominous	Threatening
Tirade	Angry speech
Encumber	Hinder
Plagiarize	Steal
Impale	To fasten to a stake...on a stake
Travesty	I know what it means, but I can't think of it...a travesty of justice, for instance. I can use the word, but I can't define it the way it should be.

## 22. Feebleminded

Winter	A season where it gets cold...snow comes, sleet, storms.
Repair	To fix something
Breakfast	Well, you eat breakfast in the morning when you get up out of

bed.

Fabric	I don't know.
Slice	Slice meat, bread
Assemble	You assemble something or that.
Conceal	It means if a letter or package isn't sealed, you have to conceal it over.
Enormous	I don't know.
Hasten	Hasten? You aren't supposed to waste something.
Sentence	When a man commits murder, he goes up and the judge sentences him to 20 years or life in prison.
Regulate	To regulate the thermometer or that.
Commence	I don't know.
Ponder	A ponder is a man that is fixin something or building a house.
Cavern	A place where you go to drink beer...it sounds like it.
Designate	I don't know.
Domestic	I don't know.
Consume	You are so panicked that you want to be consumed.
Terminate	Terminate? A man is a terminator...he goes and kills bugs and stuff like that.
Obstruct	A construct is making blueprints or stuff like that.
Remorse	Remorse? I don't know.
Sanctuary	Sanitary...milk, dietary or something like that.
Matchless	You don't have no matches.
Reluctant	I don't know.
Calamity	That's a word that means funny, silly...like Calamity Jane.
Fortitude	A tube is something you are not supposed to touch.



Tranquil	Tranquil? I don't know.
Edifice	Edifice? You're not supposed to hit anybody with your fist or that.
Compassion	When you go to church, the statues are covered...the compassion has come.
Tangible	Tangible? In other words, tangerine is a fruit.
Perimeter	Perimeter? I don't know.
Audacious	Audacious? I don't know.
Ominous	Ominous? That's a story on TV.
Tirade	Trade? Tirade? Well, in other words, you want to trade or if you don't want to you don't have to.
Encumber	Encumber? Well, a man comes in...he's a new incomer.
Plagiarize	Plagiarize? Plagiarize the milk or food.
Impale	Impale? Well, when a guy is sick he is impale.
Travesty	A man who travels all over the world.

### 23. Psychoneurotic

Winter	A season
Repair	To...well, repair is to fix something that is broken.
Breakfast	It's usually the first meal of the day and it refers to breaking the fast of the night.
Fabric	Fabric is a cloth.
Slice	That's a portion of a larger object.
Assemble	Put together the components of a machine.
Conceal	Hide from view.
Enormous	Very large

Hasten	Quickening
Sentence	It's a group of words expressing a complete thought.
Regulate	Adjust or control.
Commence	Start
Ponder	Think deeply
Cavern	A hole in a hill or a hole in the earth.
Designate	Point out.
Domestic	Generally refers to something that would be associated with civilization.
Consume	Take in or absorb.
Terminate	Bring to an end.
Obstruct	Well, this is ambiguous...obstruct would be to get in the way of or put in the way of.
Remorse	Deep regret
Sanctuary	A...privileged place...some place to hide.
Matchless	Cannot be duplicated.
Reluctant	Well...prefer not to or hesitate to do something.
Calamity	Well, some catastrophe or some bad happening.
Fortitude	Determination over a period of time.
Tranquil	Quiet
Edifice	Oh...something like a structure or a statue pertaining to something.
Compassion	Sympathy or forgiveness.
Tangible	Touchable or visible object.
Perimeter	Outer edges of anything.
Audacious	Oh...sassy or...I'm searching for a word and can't think of

	it...a sassy, belligerent attitude.
Ominous	Something threatening or frightening.
Tirade	Usually a loud, hostile verbal spanking so to speak.
Encumber	Oh...imburden or constrict or hold back.
Plagiarize	Oh...refers to scandalous sayings.
Impale	Well, this would refer to...stick onto...referring to a person it would mean to stick a knife in theit stomach or something like that.
Travesty	Well, this would be a misuse of another person, place, or thing...and avoiding the issue.

#### 24. Schizophrenic

Winter	Cold
Repair	Fix
Breakfast	Eat...morning meal.
Fabric	Cloth
Slice	Piece
Assemble	Put together
Conceal	Hide
Enormous	Large amount
Hasten	To hurry
Sentence	Putting group of words together.
Regulate	To level something off.
Commence	Start
Ponder	I don't know how you'd use that.

Cavern	I don't know.
Designate	Distance
Domestic	Domestic affairs...personal affairs.
Consume	Large amount
Terminate	To terminate a distance
Obstruct	Skip it
Remorse	I don't know.
Sanctuary	I don't know just how I'd use it.
Matchless	Something, you couldn't mistake it.
Reluctant	Reluctant to idea, or rules
Calamity	Something unusual
Fortitude	Fortitude the amount
Tranquil	I don't know. We get tranquilizers to change I guess.
Edifice	I don't know.
Compassion	I don't know.
Tangible	Something that's, ah, it's a tangible item.
Perimeter	Certain kind of measurements.
Audacious	No
Ominous	I used it lots of time...I don't know.
Tirade	I don't know.
Encumber	I don't know.
Plagiarize	I don't know.
Impale	I don't know.
Travesty	I don't know.

25. Organic

Winter	Cold
Repair	Well...if anything is broken, you fix it.
Breakfast	Food
Fabric	Clothes
Slice	Bread
Assemble	Puzzle...you can assemble a puzzle.
Conceal	It means you're hiding something.
Enormous	Big
Hasten	Wait
Sentence	What kind of sentence? Sentence to a prison.
Regulate	Regulate the heater
Commence	Firing...in the army.
Ponder	Pondering around...doing nothing.
Cavern	That's a place in the mountains where they have a cavern at. No, it's not that either. Where they have a place built.
Designate	I don't know.
Domestic	Domestic...a figure...art.
Consume	I don't know.
Terminate	Terminate? You got a dictionary? I don't know.
Obstruct	Obstruct? In what manner are you using it?
Remorse	I don't know what that means.
Sanctuary	Put away...like in a casket.
Matchless	Fire
Reluctant	I don't know.

Calamity	I don't know.
Fortitude	Fortitude? I don't know.
Tranquil	How do you spell that? I don't know.
Edifice	I haven't...I don't know.
Compassion	I've heard the word, but I don't know what it means. Bashful?
Tangible	I don't know.
Perimeter	I don't know.
Audacious	Some kind of religion?
Ominous	The opposite
Tirade	I don't know.
Encumber	I don't know.
Plagiarize	I don't know.
Impale	I don't know.
Travesty	I don't know.

## 26. Feebleminded

Winter	Winter is a...like there is snow and that...like cold weather.
Repair	Repair...there is a man repairing...fixing the door.
Breakfast	Breakfast...a person got through with his breakfast...like it It eat my breakfast in the morning before I go to work
Fabric	I don't know fabric.
Slice	Like...I slice the meat and that.
Assemble	A thimble...put a thimble on your finger and sew buttons and that.
Conceal	Conceal? I don't know that one.
Enormous	I don't know.

Hasten	Hasten? I don't know.
Sentence	A sentence? I don't know.
Regulate	Regulate? If the furnace ain't working, you regulate the stove.
Commence	Commence? I don't know.
Ponder	Ponder? I don't know.
Cavern	A cabin...I don't know.
Designate	Designate? I don't know.
Domestic	No.
Consume	I don't know.
Terminate	I don't know.
Obstruct	Obstruct? I don't know.
Remorse	Remorse? I don't know.
Sanctuary	Sanctuary? I don't know.
Matchless	Matchless? I don't know.
Reluctant	Reluctant? I don't know.
Calamity	A calamity? A calamity is a clown or what, isn't it.
Fortitude	Fortitude? I don't know.
Tranquil	A tranquil...I don't know.
Edifice	Edifice? I don't know.
Compassion	A compassion? I don't know.
Tangible	Tangible? I don't know.
Perimeter	Perimeter? I don't know.
Audacious	Audacious? I don't know.
Ominous	Ominous? I don't know.
Tirade	A tirade? I don't know.
Encumber	Encumber? I don't know.

Plagiarize	Play what? I don't know.
Impale	Impale? I don't know.
Travesty	A travesty...I don't know.

27. Schizophrenic

Winter	Season...between December and March 21...cold.
Repair	Mend
Breakfast	Meal...first of the day.
Fabric	Cloth
Slice	To cut with downward motion.
Assemble	To meet or put together
Conceal	Hide
Enormous	Large
Hasten	Speed
Sentence	Advance of an idea orally or literally
Regulate	Adjust
Commence	Begin
Ponder	Think
Cavern	Cave
Designate	Specify
Domestic	Tame, or form of servant
Consume	Eat
Terminate	End
Obstruct	Dam
Remorse	Sadness
Sanctuary	Haven



Matchless	Perfect
Reluctant	Inaffable
Calamity	Tragedy
Fortitude	Nerve
Tranquil	Serene
Edifice	House
Compassion	Love
Tangible	Clear
Perimeter	Rim or edge...outer
Audacious	Loud
Ominous	Large
Tirade	Berate
Encumber	Load
Plagiarize	Happy
Impale	Spit
Travesty	I don't know.

## 28. Organic

Winter	Well, winter is just...well, the winter...the way...the only thing I can think about around here is cold, snow, bad driving.
Repair	Well, repair...repairing something...just like your folder... maybe it's the tearing of the seam.
Breakfast	Break...eating in the morning.
Fabric	Well, as far as fabric...on clothes...fabrics...well, fabrics are good for a lot of things in the home itself.

Slice	Well...something to cut with.
Assemble	Assemble...like putting something apart...I don't mean apart ...again...I'm saying it wrong...putting it back in place.
Conceal	Conceal...concealing something that you don't want to have other people see or notice.
Enormous	Enormous...a lot of something...or everything.
Hasten	Hasting...hasten...hasten you...having somebody come somewhere.
Sentence	Oh, sentence...something you have to do like a prison...a person going to a prison...they have sentenced him for life.
Regulate	Regulate...regulate the heat in the house.
Commence	Commence...commenced...commence doing something.
Ponder	Ponder...like I would...well...maybe a person that was very wasteful...throwing money away.
Cavern	Cavern...cavern...I can't think of anything...to use it for.
Designate	Designate...to appoint I'd say...going somewhere.
Domestic	Domestic...that's a...I couldn't bet money on this.
Consume	Consume...well, consuming something.
Terminate	Terminating where you're at.
Obstruct	Obstruct...obstruct...like...something a person owns but being hurt with...some way it isn't he himself, but something he owns or lives in...being hurt in some way.
Remorse	Remorse...I can't think...I can't get any knowledge from that.
Sanctuary	I wouldn't be too sure on that one itself.
Matchless	Matchless...about the only thing I can think about for match- less is two people doing something.
Reluctant	I'm reluctantly on my schooling today on how I'm doing.

Calamity	Calamity...calamity...there isn't...repeat that please... calamity...there's nothing I'm sure of.
Fortitude	Fortitude...fortitude...well, there isn't...there isn't anything registering.
Tranquil	I'm trying to express it in stocks and bonds, and I don't have a full meaning on it.
Edifice	Edison...nothing in it for me.
Compassion	Compassion...compassion of people...things alive in this world that people like or want.
Tangible	Tangible...nothing for sure...tangible.
Perimeter	Perimeter...the only thing I can think of in a hurry...the world.
Audacious	No knowledge about it.
Ominous	Ominous...that's a blank.
Tirade	Repeat that one please...No.
Encumber	No knowledge on that one...it's a blank.
Plagiarize	Plague...nothing.
Impale	Impale...impale...impeal.
Travest	Travesty...the only thing I would be thinking about...it might have been movement from one place to another like vacation...but I wouldn't be able to bet money on it.

## 29. Organic

Winter	It means it's cold...cold or snow.
Repair	You gotta fix something...something needs fixin...you gotta work on it.

Breakfast	That's what you eat after a night's sleep...the first meal of the morning.
Fabric	I guess it's some tales you read.
Slice	I don't know...cut something I guess.
Assemble	Everybody joins and gets together.
Conceal	It means you hide...you hide something somewhere cause you can't want somebody to see it.
Enormous	Too many people I guess or too much fire.
Hasten	Means you gotta hurry.
Sentence	Something you say.
Regulate	It means people do things a certain way.
Commence	Commence joining, doing something.
Ponder	Wonder over something...you ponder over what that is.
Cavern	Cavern...I don't know.
Designate	Designate...means you're saying where some place is.
Domestic	You're quoting something.
Consume	You take in what they tell you.
Terminate	Wonder if it's true.
Obstruct	I don't know.
Remorse	I don't know.
Sanctuary	A place in church.
Matchless	Something that can't be compared.
Reluctant	Something you don't want to do or don't like to do.
Calamity	I don't know.
Fortitude	You're combining what you got.
Tranquil	I don't know.

Edifice	Edifice. I don't know. I never heard of it.
Compassion	Comparing what was said or thinking about it.
Tangible	Means you're confused or it can be compared with something.
Perimeter	Perimeter, huh? A place you're going or leaving I guess.
Audacious	I don't know.
Ominous	I don't know that either.
Tirade	Tirade. I don't know.
Encumber	Encumber somebody you meet.
Plagiarize	Plagiarize. I don't know.
Impale	Something you say I guess...or compare.
Travesty	Travesty means you're traveling I guess.

### 30. Psychoneurotic

Winter	A season
Repair	To fix
Breakfast	Meal...morning meal.
Fabric	Cloth
Slice	Part of...piece.
Assemble	Put together.
Conceal	Hide
Enormous	Large or great
Hasten	Fast...speed up.
Sentence	Now sentence...could be two couldn't it. A group of words... a line of words.
Regulate	Adjust
Commence	Start

Ponder	To think or dwell on an idea...to ponder over something.
Cavern	Part of a cave...a cave.
Designate	I should know those words but they don't come to me...to assign
Domestic	Tame...a domestic animal is a tame animal.
Consume	To use or eat.
Terminate	End
Obstruct	Stop or...obstruction...barrier or something.
Remorse	Sad I guess.
Sanctuary	Terrible! Sanctuary...I just haven't got the words for it. I used to know it.
Matchless	Matchless. Well, it can't be matched. Unmatchable.
Reluctant	Reluctant. I can give you a sentence, but it is a son of a gun to give.
Calamity	Maybe I'm thinking too hard. It's a calamity. It's a...you got me at the wrong time...that's all.
Fortitude	No.
Tranquil	No.
Edifice	Edifice. A statue...it's an edifice...it's a...no.
Compassion	No.
Tangible	No. I should know it...something tangible...if I could think of words to express myself.
Perimeter	A perimeter...a circle...a circled area.
Audacious	No
Ominous	No.
Tirade	No.
Encumber	No.

Plagiarize	Never heard of that one.
Impale	Impale...means to be caught...to be impaled on a picket fence.
Travesty	Travesty...I don't get that one at all...a definition for... I can't think of it.

Table 1. Mean Hits for High School Sophomores

<u>Diagnostic Category</u>	Standard Nomenclature		Layman's Nomenclature	
	Mean	<u>SD</u>	Mean	<u>SD</u>
All Categories	7.30	2.62	8.40	2.54
Organic	1.10	0.99	0.90	0.73
Feebleminded	1.70	1.70	2.50	1.26
Schizophrenic	0.70	1.05	0.70	0.82
Psychoneurotic	0.90	1.28	1.60	0.84
Normal	2.90	0.99	2.70	0.94



**Appendix B. Data for Additional Groups of Judges**

Table 2. Analysis of Variance for High School Sophomores

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Educational level (EL)	3	1.07	< 1
Nomenclature (N)	2	0.18	< 1
EL X N	6	1.14	< 1
Error (Between)	68	1.18	
Diagnostic Category (C)	4	85.74	71.33**
C X EL	12	1.91	1.59
C X N	8	2.46	2.04
C X EL X N	24	0.83	< 1
Error (Within)	272	1.20	
Total	399		

\*\*p < .01

Table 3. Mean Hits for College Upperclassmen Exposed to Psychology Courses  
Beyond Introductory

<u>Diagnostic Category</u>	Standard Nomenclature		Layman's Nomenclature	
	Mean	<u>SD</u>	Mean	<u>SD</u>
All Categories	10.50	3.17	10.70	2.62
Organic	0.50	0.70	1.30	1.05
Feebleminded	2.50	1.35	2.90	1.28
Schizophrenic	1.20	1.03	1.10	1.10
Psychoneurotic	2.90	1.28	1.80	1.31
Normal	3.40	1.64	3.60	1.50

Table 4. Analysis of Variance for College Upperclassmen Exposed to Psychology Courses Beyond Introductory

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Exposure to Psychology (E)	2	2.61	2.20
Nomenclature (N)	1	0.01	< 1
E X N	2	0.65	< 1
Error (Between)	54	1.19	
Diagnostic Category (C)	4	83.70	58.128**
C X E	8	3.01	2.09
C X N	4	2.55	1.77
C X E X N	8	2.29	1.59
Error (Within)	216	1.44	
Total	299		

\*\*p < .01

**Appendix C. Scheffe Tests of Contrasts of Differences Between the Means for  
Groups Shown in Tables 11 and 12, Text**

Table 5. Comparisons between Groups of Table 11, Text

All Categories Combined		Differences
Unexposed - Exposed to Intro. Psych.		1.33*
Unexposed - Exposed beyond Intro. Psych.		2.20*
Unexposed - Ph.D.		3.75*
Exposed to Intro. Psych. - Exposed beyond Intro. Psych.		0.87
Exposed to Intro. Psych. - Ph.D.		2.42*
Exposed beyond Intro. Psych.		1.55*
* $p < .05$		
Schizophrenic Category		
Unexposed - Exposed to Intro. Psych.		0.23
Unexposed - Exposed beyond Intro. Psych.		0.51
Unexposed - Ph.D.		2.05*
Exposed to Intro. Psych. - Exposed beyond Intro. Psych.		0.28
Exposed to Intro. Psych. - Ph.D.		1.82*
Exposed beyond Intro. Psych. Ph.D.		1.54*
* $p < .05$		
Psychoneurotic Category		
Unexposed - Exposed to Intro. Psych.		0.48
Unexposed - Exposed beyond Intro. Psych.		1.00
Unexposed - Ph.D.		0.42

Table 5 - Continued

Exposed to Intro. Psych. - Exposed beyond	0.52
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Intro. Psych.

Exposed to Intro. Psych. - Ph.D.	0.06
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Exposed beyond Intro. Psych. - Ph.D.	0.58
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\* $p < .05$

Table 6. Comparisons between groups of Table 12, Text.

All Categories Combined	Differences
Standard Nomenclature - Layman's Nomenclature	0.20
Standard Nomenclature - Ph.D.	3.08*
Layman's Nomenclature - Ph.D.	2.88*

$p < .05$

Organic Category

Standard Nomenclature - Layman's Nomenclature	0.49*
Standard Nomenclature - Ph.D.	0.38*
Layman's Nomenclature - Ph.D.	0.11

$p < .05$

Schizophrenic Category

Standard Nomenclature - Layman's Nomenclature	0.30
Standard Nomenclature - Ph.D.	1.75*
Layman's Nomenclature - Ph.D.	2.05*

$p < .05$



APPROVAL SHEET

The thesis submitted by Everett S. Jacobson has been read and approved by the director of the thesis. Furthermore, the final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

4/13/70

Date

William A. Hendy

Signature of Adviser